

A conceptual framework for understanding Armed Non-State Actors (ANSAs)

Strategic roles and operational dynamics

James W. Moore, LL.M., Ph.D.

Defence Research and Development Canada

Scientific Report

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Abstract

This is the Final Report of the Technology Investment Fund (TIF) Project entitled “A Conceptual Framework for Understanding Armed Non-state Actors (ANSAs): Strategic Roles and Operational Dynamics” (Project Code: 10az01). The Socio-cognitive Systems Section (SCSS) at Defence Research and Development Canada (DRDC), Toronto Research Centre, undertook this multi-year Project in order to advance our understanding of the motivation, intent, and behaviour of ANSAs. Consistent with DRDC’s support-to-operations mandate, this understanding will help the Canadian Armed Forces (CAF) effectively engage these actors in future expeditionary operations.

The in-house Project team and two world-class academic contracting teams carried the Project through three Phases. *Phase 1 Conceptual Development* established the boundaries of the conceptual problem space. *Phase 2 Framework Calibration* calibrated the “first-cut” Irregular Adversary (Insurgent) [IA(I)] Concept Map (Cmap)¹ using a real-world test case—the Somali Islamist ANSA al-Shabaab. *Phase 3 Project Integration* integrated the findings of the first two phases and recast the IA(I) Cmap in order to create the key end-product of this Project: the *ANSA Cmap*.

The generic *ANSA Cmap* is a high-level conceptual framework—grounded in both multidisciplinary theory and mixed methods practice—that distills our understanding of these actors to its core strategic-level factors. It serves as a *cognitive model*—or “primer”—on this class of irregular adversary as well as a *knowledge model* or template for organizing and managing the overwhelming mass of information collected on ANSAs.

The Project’s independent research thrusts triangulated on two critical factors that featured as focal elements of the ANSA Cmap, that is, the competition between the ingroup and an outgroup(s) (*social conflict*), and the perceived threat to the future vitality of the ingroup arising from this competition (*collective threat*). Appreciating these variables *from the perspective of the ANSA and the ingroup it claims to represent* emerges as the key to understanding the intentions and behaviours of these non-state actors. From a policy standpoint, this finding suggests that the “smart” ANSA would likely try

- to harden the “us” vs. “them” distinction (emphasizing that not only is it part of the “us” or ingroup but that it is the vanguard or leading element of “us”), and
- amplify the threat to the ingroup or “us,” both through words and deeds.

Significance to defence and security

In future expeditionary operations, the Canadian Armed Forces (CAF) will inevitably encounter ANSAs in the battlespace. In order to effectively engage this class of actors, whether through

¹ A *Concept Map* is a graphical model for organizing and representing knowledge consisting of a semi-hierarchical arrangement of concepts and propositions.

kinetic or non-kinetic operations, we must understand their motivations and intentions so that we may deter, disrupt, or defeat their violent behaviours and help restore some semblance of security and stability to societies under violent stress. Consistent with DRDC's support-to-operations mandate, the overarching objective of our Project was to improve this understanding.

Résumé

Voici le rapport final d'un projet financé par le Fonds d'investissement technologique et intitulé : « A Conceptual Framework for Understanding Armed Non- State Actors (ANSAs): Strategic Roles and Operational Dynamics » (Cadre conceptuel pour comprendre les motivations des acteurs armés non étatiques [AANE]) (code de projet : 10az01). La Section des systèmes sociocognitifs (SSC) de Recherche et développement pour la défense – Toronto (RDDC Toronto) a entrepris ce projet pluriannuel visant à accroître notre compréhension des motivations, des intentions et des comportements des AANE. Conformément au mandat de RDDC qui consiste à soutenir les opérations, une telle compréhension aidera les Forces armées canadiennes (FAC) à affronter efficacement ces acteurs dans de futures opérations expéditionnaires.

L'équipe interne du projet et deux équipes universitaires contractuelles de calibre mondial ont mené le projet en trois phases. La *Phase 1, Élaboration conceptuelle*, a permis d'établir les limites de la question conceptuelle du projet. La *Phase 2, Étalonnage du cadre conceptuel*, a permis de concevoir une première ébauche de schéma conceptuel (Cmap)² de l'adversaire irrégulier (insurgé), fondé sur un cas type réel : le groupe d'AANE islamiste de la Somalie, Al Shabaab. La *Phase 3, Intégration du projet*, a permis d'intégrer les constatations issues des deux premières phases et de remanier le schéma conceptuel de l'adversaire irrégulier (insurgé) en vue de fournir le produit final de ce projet : le schéma conceptuel des AANE (*ANSA Cmap*).

Le schéma conceptuel générique des AANE constitue un cadre conceptuel de haut niveau qui repose sur une théorie multidisciplinaire et la pratique de méthodes mixtes, et permet de transposer notre compréhension des acteurs à ses facteurs principaux de niveau stratégique. Il joue le rôle de *modèle cognitif*, le b.a.-ba de cette catégorie d'adversaire irrégulier, ainsi que de *modèle de connaissance* ou de gabarit pour organiser et gérer la masse écrasante de données recueillies sur les AANE.

Dans le cadre du projet, les vecteurs de recherche indépendants ont axé leurs travaux sur deux facteurs critiques présentés comme des éléments fondamentaux du schéma conceptuel des AANE, c'est-à-dire la concurrence entre le groupe d'appartenance et un ou plusieurs groupes de référence (*conflit social*), ainsi que la menace perçue envers la vitalité future du groupe d'appartenance que suscite cette concurrence (*menace collective*). Une évaluation de ces variables, *du point de vue des AANE et du groupe d'appartenance qu'ils prétendent représenter*, s'impose comme élément principal pour comprendre les intentions et le comportement de ces acteurs non étatiques. Du point de vue de la politique, cette constatation laisse entendre qu'un AANE « intelligent » tenterait probablement :

- d'établir une distinction plus marquée entre « nous » et « eux » (renforçant l'idée que non seulement il fait partie du « nous » ou du groupe d'appartenance, mais qu'il est aussi la tête d'avant-garde ou l'élément de tête du « nous ») ;
- d'exagérer la menace planant sur le groupe d'appartenance ou sur le « nous » par ses paroles ou ses actions.

² Un *schéma conceptuel* est un modèle graphique permettant d'organiser et de représenter les connaissances. Il est constitué de concepts et de propositions qui sont représentés selon une structure semi-hiéarchique.

Importance pour la défense et la sécurité

Dans les prochaines opérations expéditionnaires, les FAC devront inévitablement affronter des AANE dans l'espace de combat. Afin d'engager efficacement cette catégorie d'acteurs dans le cadre d'opérations cinétiques ou non, nous devons comprendre leur motivation et leurs intentions pour décourager, perturber ou vaincre leur comportement violent et contribuer à redonner une image de sécurité et de stabilité dans les sociétés où règne un climat de tension violente . Conformément au mandat de RDDC visant à soutenir les opérations, l'objectif prioritaire du projet était d'améliorer une telle compréhension.

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1 Introduction

1.1 Background

The Socio-Cognitive Systems Section (SCSS) at Defence Research and Development Canada (DRDC), Toronto Research Centre has completed a Technology Investment Fund (TIF) Project entitled “A Conceptual Framework for Understanding Armed Non-state Actors (ANSA): Strategic Roles and Operational Dynamics” (Project Code: 10az01). The Technology Investment Fund—though since discontinued—was established within DRDC to fund forward-looking, high-risk, but potentially high-payoff, research projects. The broad remit of TIF Projects was to aggressively push the boundaries of our knowledge base, consistent with DRDC’s mission to provide science and technology (S&T) support to the Canadian defence and security community.

The overall research objective of this multi-year TIF Project was to advance our understanding of the motivation, intent, and behaviour of ANSA (see the Project Quad Chart in Figure 1).

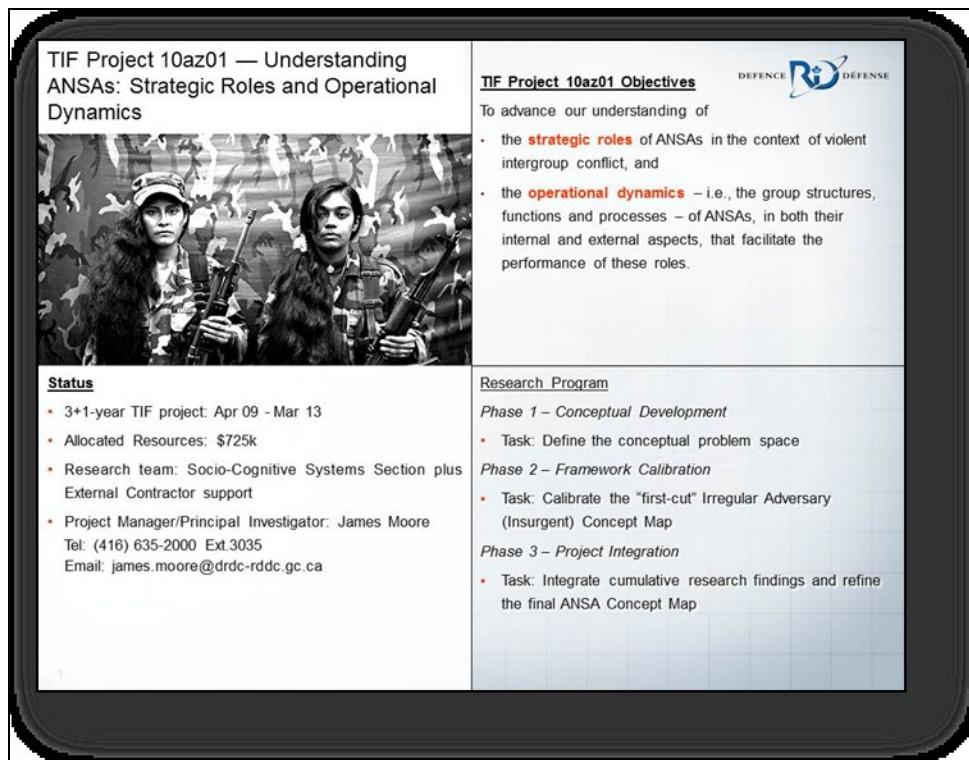


Figure 1: Project 10az01 overview.

Specifically, we sought to broaden and deepen our appreciation of

- the *strategic roles* of ANSA in the context of violent intergroup conflict, and

- the *operational dynamics*—that is, the group structures, functions, and processes—of ANSAs, in both their internal and external aspects, that facilitate the performance of these roles.

Broadly speaking, we wanted to shed some light upon what ANSAs do and why they do it, situating their motivations, intent, and behaviours in the wider context of violent social conflict.

Why were we—and why do we remain—concerned with bettering our understanding of the strategic roles and operational dynamics of ANSAs? Our interest extends well beyond the mere satisfaction of scientific curiosity. Our quest for knowledge in this investigation was very much instrumental. In future expeditionary operations, the Canadian Armed Forces (CAF) will inevitably encounter this class of actor in the battlespace. In order to effectively engage these actors, whether through kinetic or non-kinetic operations, we must understand their motivations and intentions so that we may deter, disrupt, or defeat³ their violent behaviours and help restore some semblance of security and stability to societies under violent stress.⁴ Consistent with DRDC’s support-to-operations mandate, the overarching objective of our Project was to improve this understanding.

As the Project’s title suggests, our aim was to develop a *framework* for understanding, one that set out selected concepts and constructs deemed important in explaining the phenomenon of ANSAs. A framework is *not* a causal model, though parts of the framework may lend themselves to empirical testing of cause-and-effect relationships. Nor is it a theory. Rather, it is a *guide to discovery*, the foundation upon which theory is grounded.

³ We could add two more “ds” to the “3ds” of strategic effects (i.e., *deter*, *disrupt*, and *defeat*). The first is *defuse*, that is, “to make less dangerous, tense, or hostile” (“Defuse,” 2009). Defuse in this context means addressing the root causes of social conflict before these tensions erupt into violence. The “3ds” are *reactive military effects*; they become salient only after conflict has broken out and the CAF, along with like-minded partners and allies, has intervened on the ground. Defuse, on the other hand, is a *proactive political effect*. Under a comprehensive approach, other government departments (OGD) such as DFAIT or CIDA would take the lead in defusing tensions through preventive diplomatic and developmental activities, with the CAF playing a supportive role, if any. The second “d” that we should consider is *dissuade*, that is, “to divert or draw (a person) *from* a course or action by suasion or personal influence” (“Dissuade,” 2014). This activity can be undertaken either before or after a conflict has broken out. It is the essence of non-kinetic influence activities, including actions such as key leader engagement, PSYOPS, and CIMIC operations.

⁴ Despite—or due to—its destructive effects, collective political violence is a mechanism for change (for further discussion of this point, see Moore, 2012b). It is important to bear in mind, however, that, in the effort to counter politically-motivated violent behaviour and restore security and stability to society, the objective is not to *prevent* socio-political change. Indeed, progressive change is essential for the healthy evolution of any society. Rather, the goal is to alter the *mechanism for change*, to channel the desire for change along nonviolent paths. This obliges the established authorities, with the active encouragement of—or, if necessary, direct pressure from—external partners, to provide genuine, alternative governance mechanisms that incorporate dissident groups like ANSAs into the political process. While individuals and groups may dispute the bases underlying demands for socio-economic and political change, or disagree with the policy prescriptions derived therefrom, these differences should play out in the inclusive arena of competitive politics rather than on the lethally exclusive field of armed conflict.

This point cannot be emphasized too strongly. The conceptual framework reported here does not pretend to be predictive theory. The entities of interest to us—ANSAs—are *complex systems* (see Box 1). As such, they defy reliable prediction in terms of their behaviours and antecedent motivations and intentions. There are simply too many uncertainties, too many unknowns, for high-confidence prediction. Hence, we must be far more modest in our ambitions. As Davis and Cragin (2009) aptly put it, “the aspiration should be one of anticipating *possibilities* and improving the *odds* of correct predictions, as distinct from seeking reliable prediction [original emphasis]” (p. 454).

How did we set about developing this framework? The Project’s general approach was interdisciplinary and integrative. This, in itself, was a challenge. As Davis and Cragin (2009) note, the relevant literature “is highly fragmented in at least four ways: by academic discipline, by the divide between theory and empiricism, by methodological approach, and by level of analysis” (p. 2). This Project tried to bring together the insights from multiple perspectives—including social psychology, sociology, cultural anthropology, and other social science disciplines—to help us better understand ANSAs. Our aim was not merely to line up these theoretical and empirical insights in a row of disciplinary stovepipes, but, rather, to effectively integrate them within a comprehensive framework.

To this end, we adopted a systems perspective to the study of ANSAs, a non-reductionist approach in which we sought to craft a holistic description of these groups. In the course of this, we

Box 1: ANSAs as complex systems

In general, system complexity can be thought of in terms of three dimensions: the nature of the units; the nature of the interactions; and the nature of the forcing or energy input. As to the first, complex systems typically consist of large numbers of units with complex internal structures, units that need not be identical nor have strictly defined roles within the system. Second, these units interact strongly and, often, nonlinearly in a web of mostly unknown relations; moreover, random elements and external “noise” frequently act upon these interactions. Finally, complex systems are typically out-of-equilibrium; external changes or perturbations force the system away from its steady state (Amaral & Ottino, 2004, p. 149).

In what sense, then, is an ANSA a complex system? The “units” of an ANSA are its members—individuals with their own complex personalities that uniquely shape their cognitions, emotions, and behaviours. Their roles within the group—as leader or follower, instigator or perpetrator, activist or sympathizer, etc.—are fluid; members may assume different roles at different times depending upon their abilities, skills, and experience as well as the group’s needs (e.g., the need to replace role occupants lost through attrition) and structure (e.g., roles are more fluid in loose networks as opposed to hierarchical organizations). Moreover, the web of interactions within an ANSA are exceedingly tangled. Consider, for example, the two-step network analysis for only two of the 19 9/11 terrorists, Nawaf Alhazmi and Khalid Almihdhar (Krebs, 2008):

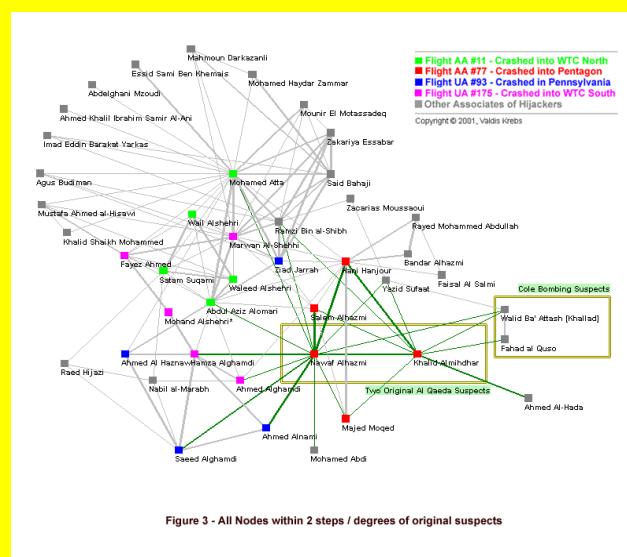


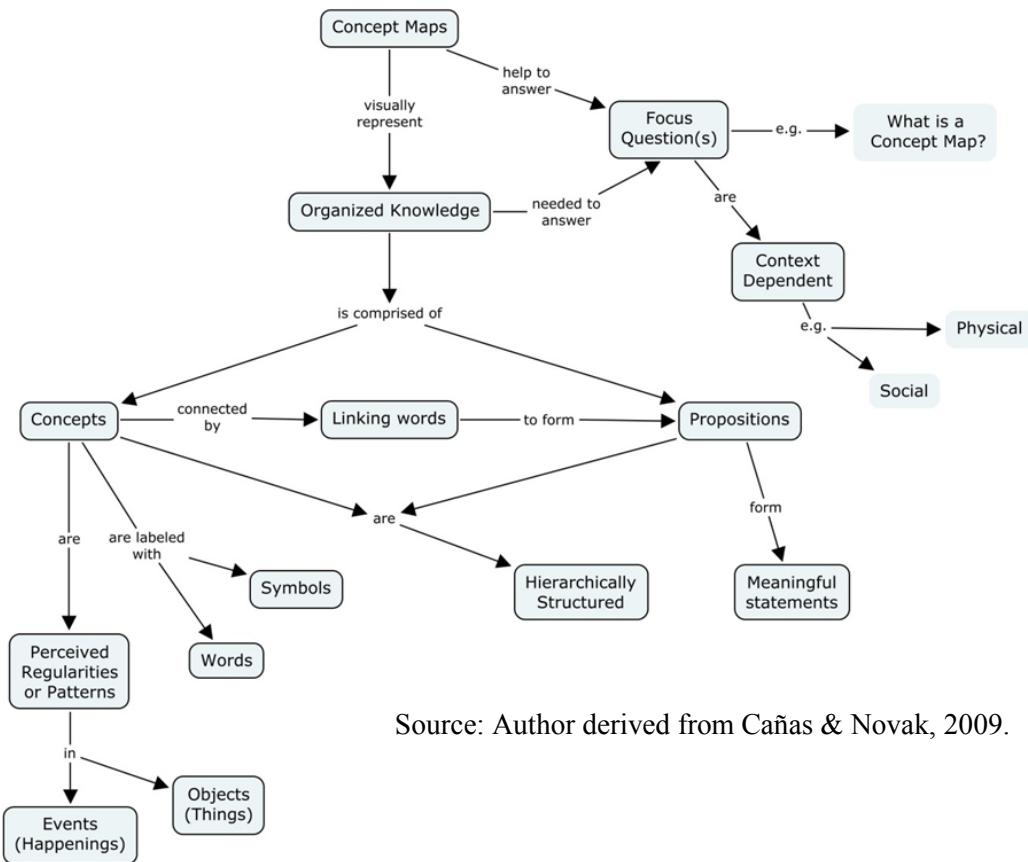
Figure 3 - All Nodes within 2 steps / degrees of original suspects

As the degrees of separation increase and the number of individuals within the group multiplies, one can easily imagine how this web of links will explode. Finally, ANSAs are continually “out-of-equilibrium,” engaged as they are in a constant and deadly struggle for political and physical survival in their environment (i.e., against government counterinsurgent and counterterrorist forces as well as other competing non-state actors).

had to reduce the system to its components to facilitate initial description and analysis. However, in contrast to a strict reductionist approach, a systems perspective recognizes that the whole is not simply the sum of its parts and that it is not enough to describe the parts in isolation in order to understand the system. One must describe the often complex and nonlinear relationships between the parts in order to grasp the higher-level systems effects (Altmann & Koch, 1998, p. 183; Masys, 2007, p. 2; Van Riper, 2012, p. 5). As complex systems theorist Julio Ottino (2003) writes, “The very essence of the system lies in the interaction between parts and the overall behaviour that emerges from the interactions” (p. 293).

Moreover, complex systems such as ANSAs must be considered in the context of their social and physical (i.e., operating) environment and their interactions with that environment. This drives home the point that there can be no one model of an ANSA, all elements of which are equally relevant to all such actors in every conceivable circumstance. As Fenstermacher, Kuznar, Rieger, and Speckhard (2010) note, no “one size fits all” with respect to terrorism and what they call Violent Non-state Actors (VNSAs) (p. 7; for the differences between ANSAs and VNSAs, see Moore, 2014). Quite simply, context matters. Davis and Cragin (2009) state this even more strongly: “Centrality of context is a first principle and establishing context should be the first order of business in organizing thought” (p. 1). The framework we have developed is, in the first instance, a generic conceptual architecture, setting out the key factors and variables that we identified as relevant to the description and analysis of ANSAs, without prejudging the relative importance or weight that should be assigned to any factor or to their interrelationships. In its practical application, though, the components of the framework will necessarily be tailored to the unique circumstances of the particular ANSA under scrutiny. In practice, the framework will be—indeed, must be—case-specific and context-dependent.

We have set out our conceptual framework for understanding ANSAs in the form of a *Concept Map* (for a detailed discussion of Concept Maps and their construction and application, see Moore, 2012a). A concept map (Cmap) is a graphical model for organizing and representing knowledge (see Figure 2). It consists of a semi-hierarchical arrangement of concepts and propositions. Typically, *concepts*—the nodes or boxes in a Cmap—are perceived regularities or patterns in events or objects, designated by a verbal or symbolic label. *Propositions* specify relationships between concepts using linking words or phrases to form meaningful statements. The preferred propositional form is the *triple*, that is, the simple *concept → linking phrase → concept* unit. Each Cmap is constructed around a *focus question*, the specific query the map seeks to answer. A clear and explicit focus question keeps the Cmapping exercise on target. In this Project, the focus question was straightforward: *What is an ANSA?*



Source: Author derived from Cañas & Novak, 2009.

Figure 2: A concept map of concept maps.

Practically, the end-product of the Project—presented in Section 4, Figure 12 below—is a generic *ANSA Concept Map* made up of a semi-hierarchical array of propositions describing our understanding of this class of social actors: what they are; the strategic roles they play (or see themselves as playing); how they play these roles; the structures, decision making processes, etc., that facilitate the performance of these roles; and so on. In moving toward this end product, the Project proceeded through three Phases: (1) Conceptual Development, (2) Framework Calibration, and (3) Project Integration. In the pages that follow, each of these Phases will be summarized in terms of the major activities undertaken, the products generated, and the knowledge breakthroughs made. These summaries are based on the TIF Annual Reviews compiled from 2009 to 2012 and reproduced in Annex A.

2 Phase 1 conceptual development

2.1 Activities

The task in Phase 1 was to establish the boundaries of the conceptual problem space. To this end, the Principal Investigator (PI) (and this Report’s author) carried out two investigations. First, he explored the nature of ANSA grand strategic and strategic roles as well as the strategies employed in the performance of these roles. Second, he examined the Canadian Army’s “model” of an Irregular Adversary (Insurgent) [IA(I)] as set out in its doctrinal writings, which subsequently served as the notional foundation upon which the end-product ANSA Cmap was built.

Within these broad conceptual parameters, the Project proceeded along two separate research thrusts. Specifically, we “drilled down” into two blocks of the IA(I) Cmap (see Section 2.3.2 below): the *Social Conflict* block and the *Strategic Decision Making Processes* block. We contracted two world-class academic teams to investigate each thrust. In Phase 1, the teams conducted integrative reviews of the scientific literature to access the state of existing knowledge in the areas of social conflict and small group decision making specifically as they relate to ANSAs.

Thrust 1—The social conflict block

The team of Donald Taylor (McGill University), Michael Wohl (Carleton University), and Michael King (McGill University) examined the social environment within which ANSAs live and operate, approaching this from the perspective of social psychological theories of intergroup conflict.

Thrust 2—The strategic decision making processes block

The team under Eduardo Salas (University of Central Florida) explored the strategic decision making processes of ANSAs from the standpoint of team/small group decision-making theories.

Though familiar with the work undertaken in the other thrust, the teams operated independently of each other. They employed different theoretical approaches grounded in different disciplines and knowledge bases. They did not coordinate their efforts or results. The intent of this two-pronged approach—continued in Phase 2—was to triangulate the two independent research thrusts, thereby minimizing the biases intrinsic to single-theory, single-method studies. This would also facilitate cross verification of the findings of each thrust, strengthening the validity of any common or shared results that might emerge. The risk, of course, was that the two thrusts would generate divergent or contradictory results that would only further muddy the conceptual waters with respect to ANSAs.

The results of the foregoing activities were presented in the culminating event of Phase 1: the *Summit on ANSAs: Understanding Strategic Roles and Operational Dynamics*, held at DRDC Toronto from 26–27 October 2010. The *Summit* brought together potential CAF stakeholders with DRDC, academic, and U.S. defence and security science experts (from the Air Force Research Laboratory—AFRL) to discuss the research findings generated in this Phase and to chart the way forward in Phase 2 Framework Calibration.

2.2 Products

Table 1 summarizes the types and number of products generated in Phase 1. Figure 3 graphically details the major activities and products and the linkages between them.

Table 1: Phase 1 products – summary.

Type	Number
DRDC Reports	6
External Contractor Reports	2
Refereed Journal Articles/Conference Proceedings	6 (2 submitted for publication)
Conference Papers/Posters	5
Workshops/Seminars	1

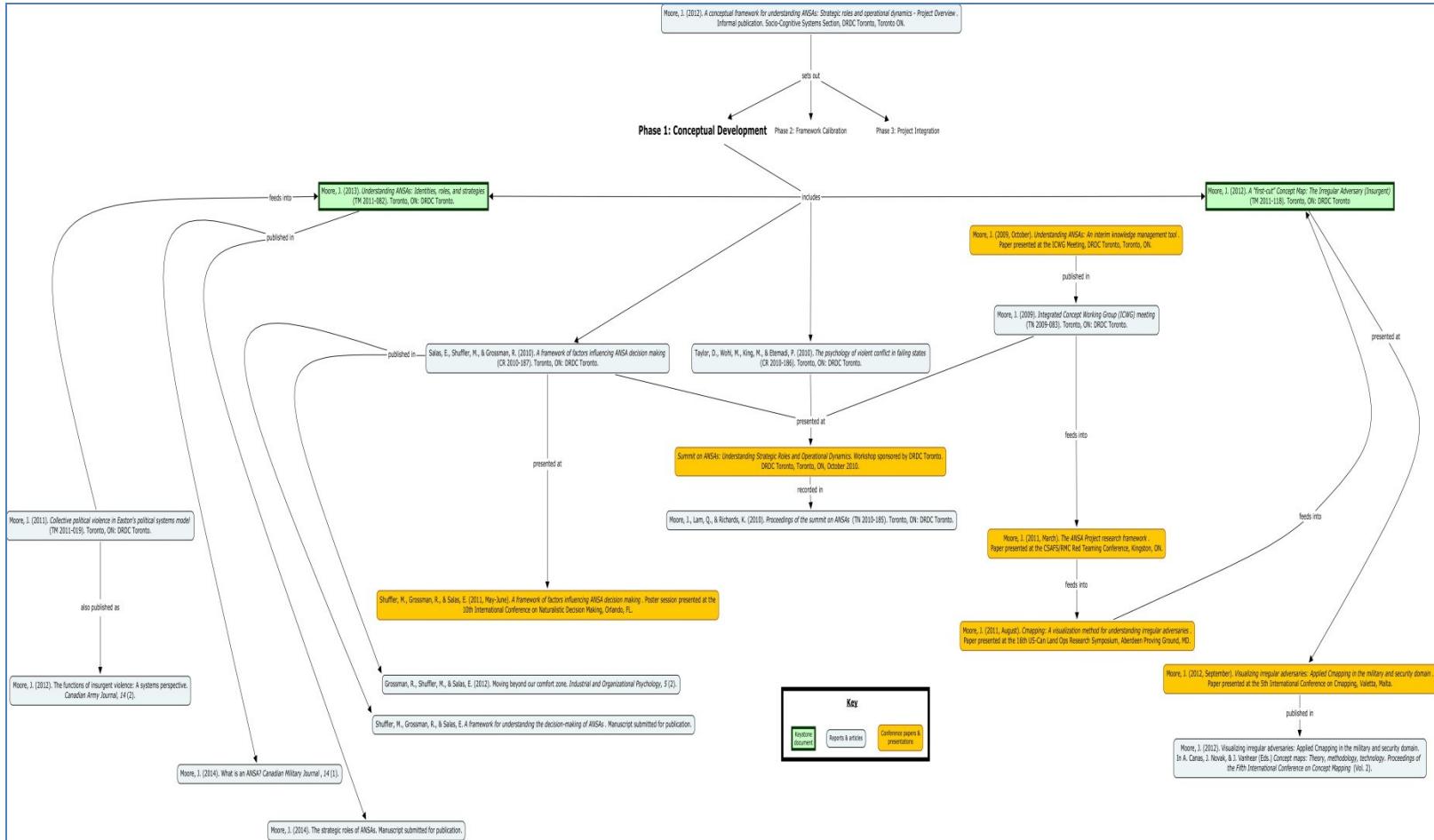


Figure 3: Phase 1 conceptual development – activities and products.

The remainder of this Section outlines the major DRDC and External Contractor Reports produced in this Phase; Abstracts for these reports are found in Annex B. The Project's *Keystone Documents* consisted of two conceptual studies. The first introduced a comprehensive typology of the grand strategic and strategic roles ANSAs play in the context of violent intergroup conflict (TM 2011-082). Specifically, the PI expanded political scientist Stephen Stedman's *spoiler* typology to include the binary opposite to spoiler, that is, the *partner* in a peace process.⁵ The second Keystone Document presented a graphical representation of the CAF's conception of an Irregular Adversary (Insurgent) [IA(I)], derived from two Canadian Army doctrinal publications: *Land Operations* (2008) and *Counter-Insurgency Operations* (2008) (TM 2011-118). Specifically, the PI constructed a "first-cut" Cmap of an IA(I) in which the principal features and characteristics of this class of adversary—as the Canadian Army sees it—were captured in terms of a semi-hierarchical arrangement of descriptive propositions (see Figure 5 below).

The main *Reports and Articles* in Phase 1 were two integrative literature reviews, one carried out in each research thrust. In the first, the Taylor/Wohl/King team surveyed the literature on the emergence of violent conflict in failing states (CR 2010-186). They approached this through the prism of six major social psychological theories of intergroup relations. Stemming from their review of a literature fragmented across disciplines and subdisciplines—in which research on ANSAs is rare, and violence in the context of failing states is not commonly examined—they identified three factors thought to be central to the psychology involved in the advent and maintenance of violent conflict in failing states: *relative deprivation*, *group emotions*, and *group identity*.

In the second thrust, the Salas team reviewed the literature on judgment and decision making approaches in the context of team, small group, and organizational settings (CR 2010-187). From this, they developed a guiding framework (see Figure 6 below) drawing upon the group decision making literature and specific facets of the ANSA and terrorist decision making literature to identify the key antecedents and moderating factors to ANSA decision making processes.

2.3 Breakthroughs

2.3.1 ANSA strategic roles concept map

The Cmap in Figure 4 graphically depicts the essence of the argument elaborated in TM 2011-082.

⁵ *Spoilers* are actors engaged in intergroup conflict who see a peace process as threatening to their interests and, hence, resort to violence to undermine that process (Stedman, 1997, p. 5). *Partners*, on the other hand, are actors that have limited political ambitions and are willing to share political power with other actors. Rather than undercutting a peace process, they are genuinely committed to and work towards peace over the long term, though not necessarily without the occasional, strategic resort to violence (Moore, 2013, p. 58).

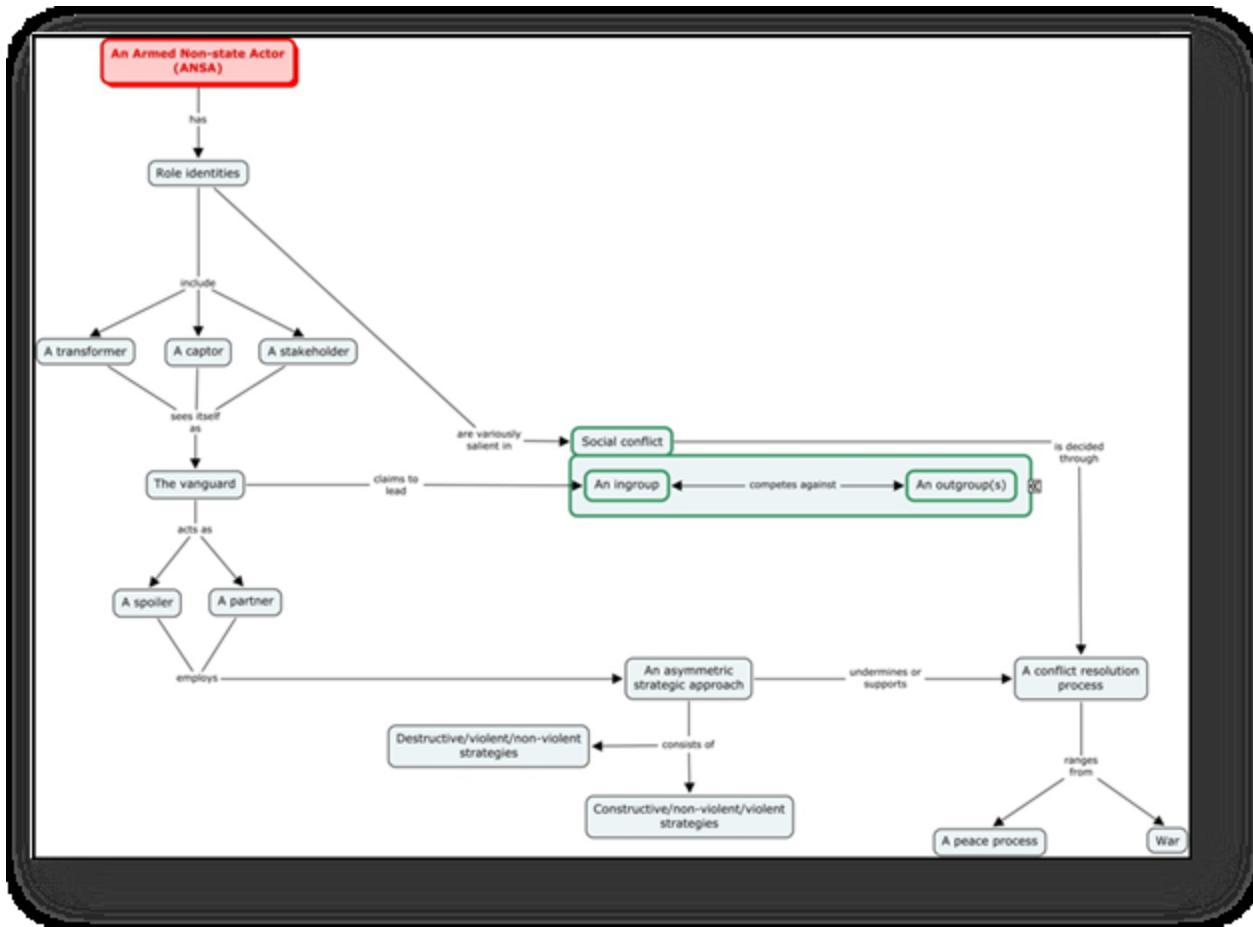


Figure 4: ANSA strategic roles concept map.

The PI's expansion of Stedman's one-sided *spoiler* typology created what has thus far been missing in the spoiler literature: a general dichotomous typology⁶ that explicitly includes the binary opposite to *spoiler*, that is, the *partner* in a peace process. Moreover, whereas the spoiler literature focuses on the strategies that third-party *custodians of peace* (Stedman, 1997, p. 6) should pursue depending upon the type of spoiler they confront, this study proposed a novel typology in which spoilers' and partners' *strategy sets*—mixes of constructive/destructive and violent/non-violent strategies—were described.

⁶ A *typology* is a multidimensional conceptual classification, where the entries in the typology table's cells represent *types* or *type concepts* rather than empirical cases (Bailey, 1994, pp. 4–6). As such, a typology is not a theory. Rather, it is “the *prerequisite* [emphasis added] for theorizing...a foundation for explanation. Theory cannot explain [or predict] much if it is based on an inadequate system of classification” (*ibid.*, p. 15).

2.3.2 The irregular adversary (insurgent) concept map

The “first-cut” IA(I) Cmap (Figure 5) was the first of its kind, that is, a holistic graphical representation of the Canadian Army’s complex concept of this class of adversary. More broadly, it represented an innovative application of the Cmapping technique in the field of defence and security studies. A paper detailing this work was presented—and subsequently published in the Conference Proceedings—at the 5th International Concept Mapping Conference (CMC2012, Malta, September 12, 2012), the premiere biannual forum for Cmappers from around the world. An anonymous CMC2012 external reviewer described this work as an “excellent review of purpose, mechanics, challenges and uses of Concept Mapping in a military context” (Alberto J. Cañas, personal communication, June 4, 2012).

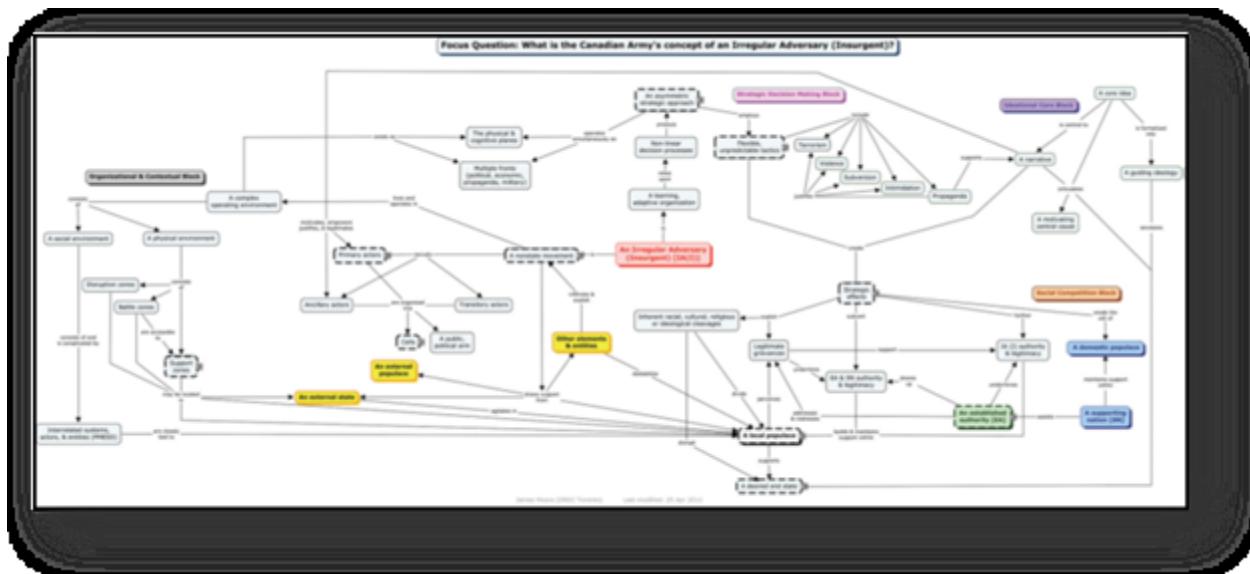


Figure 5: Irregular adversary (insurgent) concept map.

2.3.3 ANSA decision making framework

The major contribution of the Salas team’s literature review was not simply to recount what is currently known about team and group decision making processes. Beyond this, they probed the antecedents and moderators/mediators that affect (1) which decision making process ANSAs may use in any given situation [e.g., Naturalistic Decision Making (NDM) vs. Classical Decision Making (CDM)], and (2) the quality and outcomes of the chosen decision making process. Their review resulted in the development of an innovative guiding framework that identifies these key antecedents and moderators (see Figure 6). This framework incorporates many of the same factors depicted in other decision making models but differs from them in that it aggregates these factors into *individual*, *group*, and *contextual* categories. “Chunking” the seemingly infinite number of factors influencing decision making into three broad categories streamlines our approach to understanding ANSA decision making and makes it easier to apply in practice. This innovative framework was exhibited in a poster presentation at the 10th Annual International Conference on Naturalistic Decision Making, Orlando, FLA, USA, May 31 – June 2, 2011.

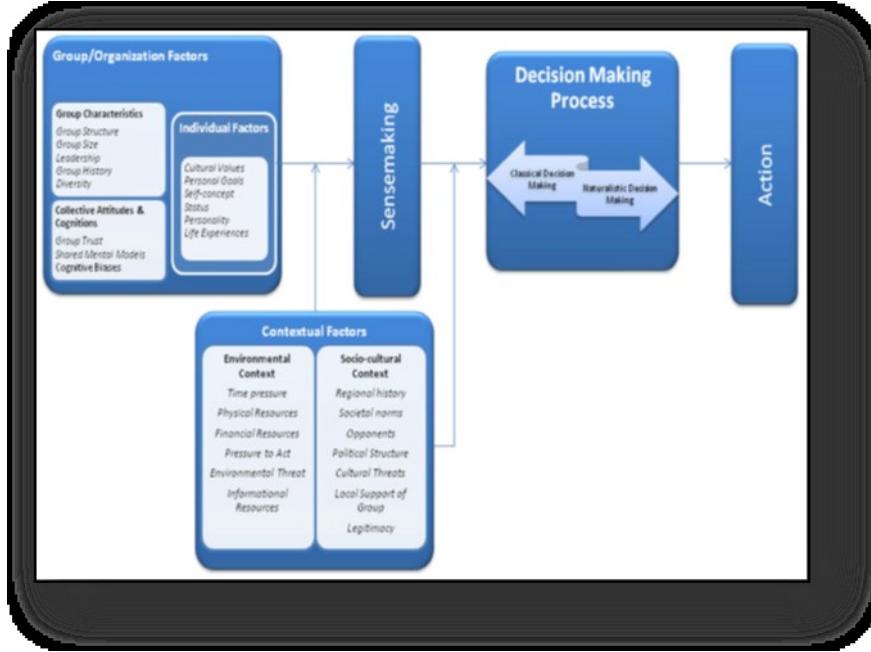


Figure 6: A framework for ANSA decision making.

3 Phase 2 framework calibration

The primary task in Phase 2 was to calibrate the first-cut IA(I) Cmap on the path to creating the final ANSA Cmap. A real-world test case was selected to use as a measurement standard against which to check the relational propositions of the IA(I) Cmap. The calibration exercise did not in any sense “prove” the Cmap; one test case does not a Cmap confirm. Rather, it enabled us to rework the IA(I) Cmap in Phase 3 such that we can have increased confidence in the overall fitness for purpose of the resulting ANSA Cmap.



Figure 7: Al-Shabaab attacker in the Westgate Mall, Nairobi, Kenya (Photo - AFP, 2014).

The calibration case study chosen was the Somali Islamist ANSA, al-Shabaab. Why focus on al-Shabaab? For one reason, Somalia is an area of concern for Canada and the international community at large. The turmoil of its interminable civil war, the threat of spill-over from that conflict into neighbouring countries—tragically highlighted in the horrific attack on the Westgate mall in the Kenyan capital of Nairobi in September 2013, for which al-Shabaab proudly claimed responsibility—and the activities of pirates in the international sea

lanes off the Horn of Africa have kept Somalia and the actors, both foreign and indigenous, embroiled in that tragedy high on the international community’s agenda. As Somalia expert Ken Menkhaus (2008) writes, “Whereas in the past the country’s endemic political violence—whether Islamist, clan-based, factional, or criminal in nature—was local and regional in scope, it is now taking on global significance” (p. 1).

Developments in Somalia are of especial concern to a significant segment of the Canadian population. Canada is home to one of the largest Somali diaspora communities in the Western world, estimated at up to 200,000 residents, with the heaviest concentrations located in Toronto and Ottawa. Somali Canadians are deeply concerned with the ongoing conflict in their homeland and with the spill-over of that conflict into their own communities in Canada, in particular, with the efforts of extremist organizations such as al-Shabaab to radicalize and recruit Somali Canadian youth.

Nor is the CAF a disinterested bystander. It has been directly involved in naval security operations in the region for the past 13 years, two of its primary tasks being counterpiracy and counterterrorism in the North Arabian Sea, the Persian Gulf, and the waters around the Horn of Africa.

3.1 Activities

In Phase 2, we continued to “drill deep” into the *Social Conflict and Strategic Decision Making Processes* blocks of the “first-cut” IA(I) Cmap. Building on the contract work conducted in Phase

1, two competitive contracts were let to the same Phase 1 teams to calibrate these components in the context of the Project's two research thrusts.

Thrust 1—The social conflict block

The Taylor/Wohl/King team conducted a field survey of young people in the Somali Canadian diaspora community, exploring the factors that lead these youths to support anti-normative behaviours and the terrorist organizations, like al-Shabaab, that perpetrate them (CR 2012-053).

Thrust 2—The strategic decision making processes block

The Salas team conducted a historiometric analysis of 153 decision making incidents involving actions of al-Shabaab over the years 2007 to 2011 in order to better understand the relationships between potential antecedents of decision making and actual ANSA decision making outcomes (CR 2012-054).

Though our external contractor teams were internationally recognized experts in their respective fields, they were not Subject Matter Experts (SMEs) on Somalia in general or al-Shabaab in particular. Thus, preparatory work in Phase 2 focused on providing the teams with a “crash course” on Somalia and al-Shabaab. The Centre for Security, Armed Forces and Society (CSAFS) at the Royal Military College of Canada (RMCC) was contracted to address the question of the importance of clan and Islamic identities in Somali culture using an alternative perspectives (or diegetic red teaming) approach. Building on the papers commissioned under this contract, the CSAFS organized an *SME Workshop: Somalia and al-Shabaab*, held at Queen’s University, Kingston, Ontario, 28–29 July 2011. The aim of the Workshop was to bring together the external contractor teams with the contributing Somalia and al-Shabaab SMEs to provide the former with essential background on the political, security, and socio-cultural context within which al-Shabaab operates. The workshop also provided participants from the broader Government of Canada (GoC) policy and intelligence community with a forum in which to discuss issues of pressing relevance to Canada’s engagement in the Horn of Africa. The intense interest this workshop generated within these other government departments and agencies prompted the organization of an expanded whole-of-government conference on al-Shabaab as the culminating event of Phase 2: *Understanding al-Shabaab and Its Effect on Canadian National Security*, organized by CSAFS and held at RMCC, Kingston, in 26–27 March 2012.

In addition to these activities, a secondary line of inquiry was pursued in Phase 2. The in-house Project team—consisting of the PI and Dr. Lianne McLellan (SCSS)—in collaboration with an External Partner—Peter Suedfeld at the University of British Columbia (UBC)—investigated the application of Suedfeld’s Integrative Complexity (IC) technique to the assessment of the quality of translations of non-English language source texts. The pursuit of this line of inquiry stemmed from the Salas team’s use in Thrust 2 of over 300 translated al-Shabaab Internet postings in distinguishing the 153 decision making incidents that were the focus of their historiometric analysis. Specifically, the question arose in our minds as to how researchers without the language skills needed to translate source texts from a foreign language could determine the quality of the translated texts that they must use in their research. In a follow-on step, our intent was to extend the triangulation of competing methods by using the IC methodology to analyze the same corpus of translated al-Shabaab Internet postings as the Salas team in their historiometric analysis.

3.2 Products

Table 2 provides a summary of the products generated in Phase 2. Figure 8 lays out the linkages between the major activities and products of this Phase.

Table 2: Phase 2 products – summary.

Type	Number
DRDC Reports	1
External Contractor Reports	5
Refereed Journal Articles/Conference Proceedings	2 (1 submitted for publication)
Conference Papers/Posters	3
Workshops/Seminars	2

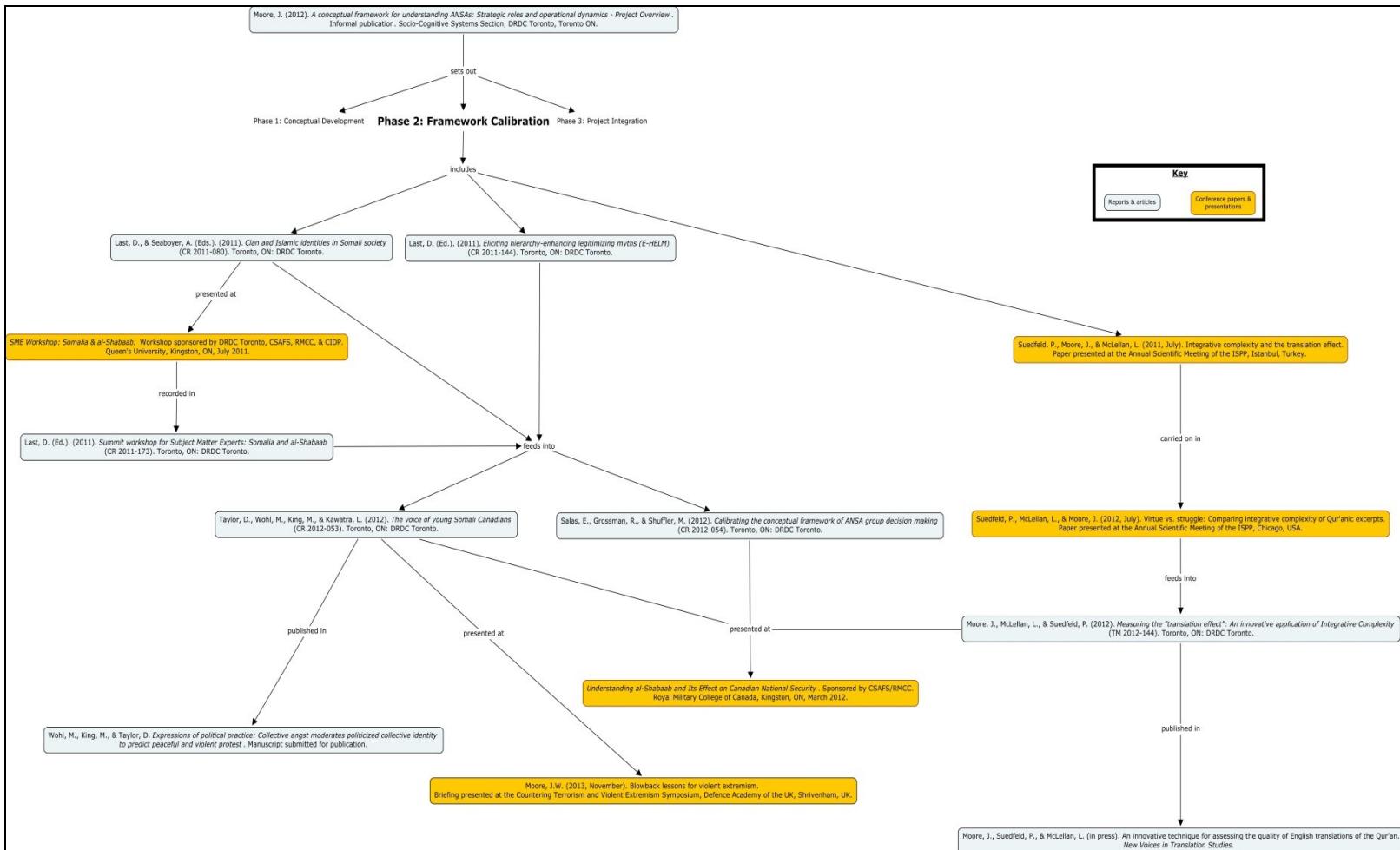


Figure 8: Phase 2 framework calibration.

As before, the remainder of this Section summarizes the major DRDC and External Contractor Reports produced in Phase 2; refer to Annex B for the Abstracts of these reports. The PI contracted the CSAFS at RMCC to organize the preparatory work on Somalia and al-Shabaab. In its first report, the Centre coordinated the contributions of five SMEs who explored alternative methods to elicit *hierarchy-enhancing legitimizing myths* (HELM)—stories told to justify domination within society, including in-group glorification and out-group denigration (CR 2011-144). The report also introduced a tool for choosing the most appropriate method for eliciting HELMs in particular circumstances and discussed the ethical concerns associated with this field of research.

In its second report, the Centre used an alternative perspectives (or diegetic red teaming) approach to address the importance of clan and Islamic identities in Somali culture (CR 2011-080). CSAFS asked six internationally recognized SMEs on Somalia to tackle this question from the anthropological, historical, political, and advocacy perspectives. This comprehensive report served as background for the *SME Workshop: Somalia and al-Shabaab* (held at RMCC in July 2011), the presentations and discussions of which were summarized in CR 2011-173.

With the preparatory reports and SME workshop as background, the academic contracting teams advanced the work in each research thrust of the Project. In the first thrust, the Taylor/Wohl/King team conducted a comprehensive field survey designed to shed light on the attraction of young people to ANSAs (CR 2012-053). They surveyed 80 young Somali Canadians, focusing on variables of importance to these young people: *perceived group threat*, *group identity* (both prominent group-based processes), and *Social Dominance Orientation* (SDO—a personality characteristic). They explored these three variables in terms of their relationship with support among young Somalis for anti-normative behaviour (i.e., terrorism) and for ANSAs like al-Shabaab that engage in such behaviour.

In the second thrust, the Salas team conducted a historiometric analysis of 153 decision making incidents involving actions of the ANSA al-Shabaab distilled from a corpus of over 300 translated Internet messages posted by the group (CR 2012-054). Incidents were coded for antecedents—consisting of *group characteristics*, *collective attitudes and cognitions*, *environmental contextual factors*, and *socio-cultural factors*—in the context of the decision making framework developed in Phase 1 and for their influence on group decision making outcomes. This methodology resulted in a more fine-grained understanding of the antecedents that shape the decision making processes and outcomes of al-Shabaab.

The in-house Project team in collaboration with the External Partner applied Suedfeld's Integrative Complexity technique to investigate the existence of a *translation effect*—measurable, statistically-significant differences in cognitive structure—among various English translations of the same non-English-language source text (in this instance, the Qur'an) (TM 2012-114). The IC scoring method was used to score selected verses from the Qur'an relating to either one of two broad themes—“struggle” or “virtue”—from three different English translations of this religious text. The scores were then compared to determine whether the different translations captured the meaning of the Qur'an *in terms of its cognitive complexity* in the same way.

3.3 Breakthroughs

3.3.1 The Somali-Canadian survey

The Cmap in Figure 9 is this author's graphical presentation of the findings reported in CR 2012-053. (Note that this Cmap was conceived independently of the Contractors as part of this author's review of the CR in his role as Contract Scientific Authority (SA). It represents this author's reading of the CR; any errors in interpretation manifest in the Cmap are the sole responsibility of this author.) The survey yielded three ground-breaking results that challenge the conventional understanding of support for collective political violence and ANSAs like al-Shabaab that perpetrate it. First, *Politicized Collective Identity* (PCI) has traditionally been seen as an unlikely path to radicalization and support for anti-normative collective action such as violence or acts of terrorism. However, the Taylor/Wohl/King team's survey revealed that, for young Somalis, support for al-Shabaab replaced support for non-violent, normative means when the group's—that is, the Somali community's—future was seen to be under threat. Second, previous research has found that low-status minority group members who are low in *Social Dominance Orientation* (SDO) tend to be attracted to violent solutions, presumably because moving from low status to equality between groups is seen as a victory. The team's survey found consistent evidence for the opposite: Among those with a strong group identity and feelings of group angst, it is those few who are particularly *high* in SDO that might be attracted to the extremes of violence and terrorism and predisposed to support ANSAs such as al-Shabaab. Finally, on a positive note, while PCI coupled with threat appears to heighten support for al-Shabaab, the survey indicated that the more young Somalis had *hope for the future*, the less they were inclined to support violence and al-Shabaab.

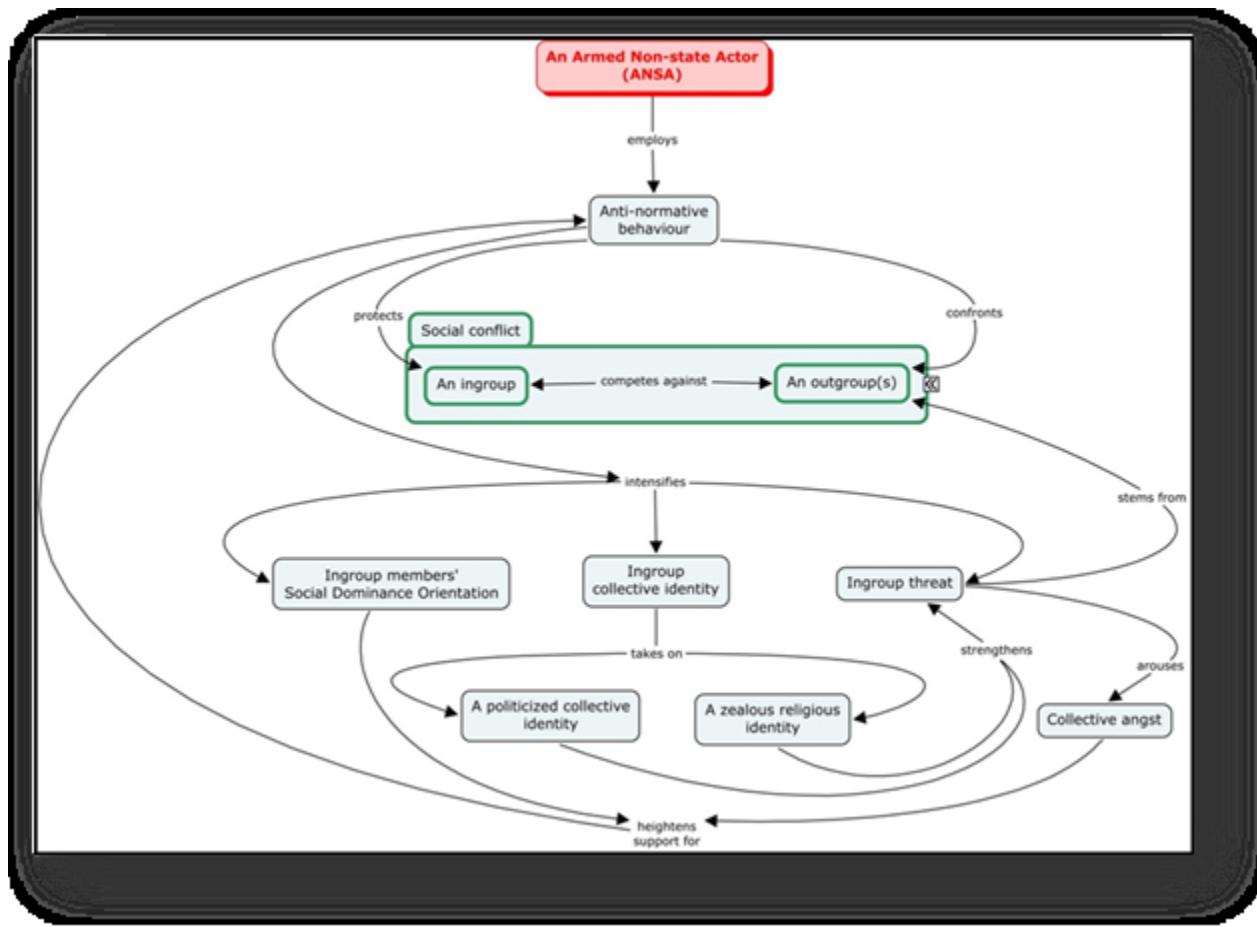


Figure 9: Cmap summary of CR 2012-053.

3.3.2 ANSA decision making framework

The Cmap in Figure 10 is this author's graphical presentation of the findings reported in CR 2012-054. (As with Figure 9 above, this Cmap was conceived independently of the Contract Report's authors and represents this author's reading of the CR; any errors in interpretation manifest in the Cmap are the sole responsibility of this author.) Major themes that emerged from the Salas team's historiometric analysis as key antecedents and moderators of ANSA group decision making included:

- underlying religious tones and cultural values driving different types of outcomes,
- group biases and a need to display power to remain relevant,
- pressures to respond based on perceived environmental or socio-cultural threats, and
- the need to enforce rules to garner local support and to punish opponents and others who violate local rules and societal norms.

These and other findings prompted the team to revise their original ANSA decision making framework (Figure 11).

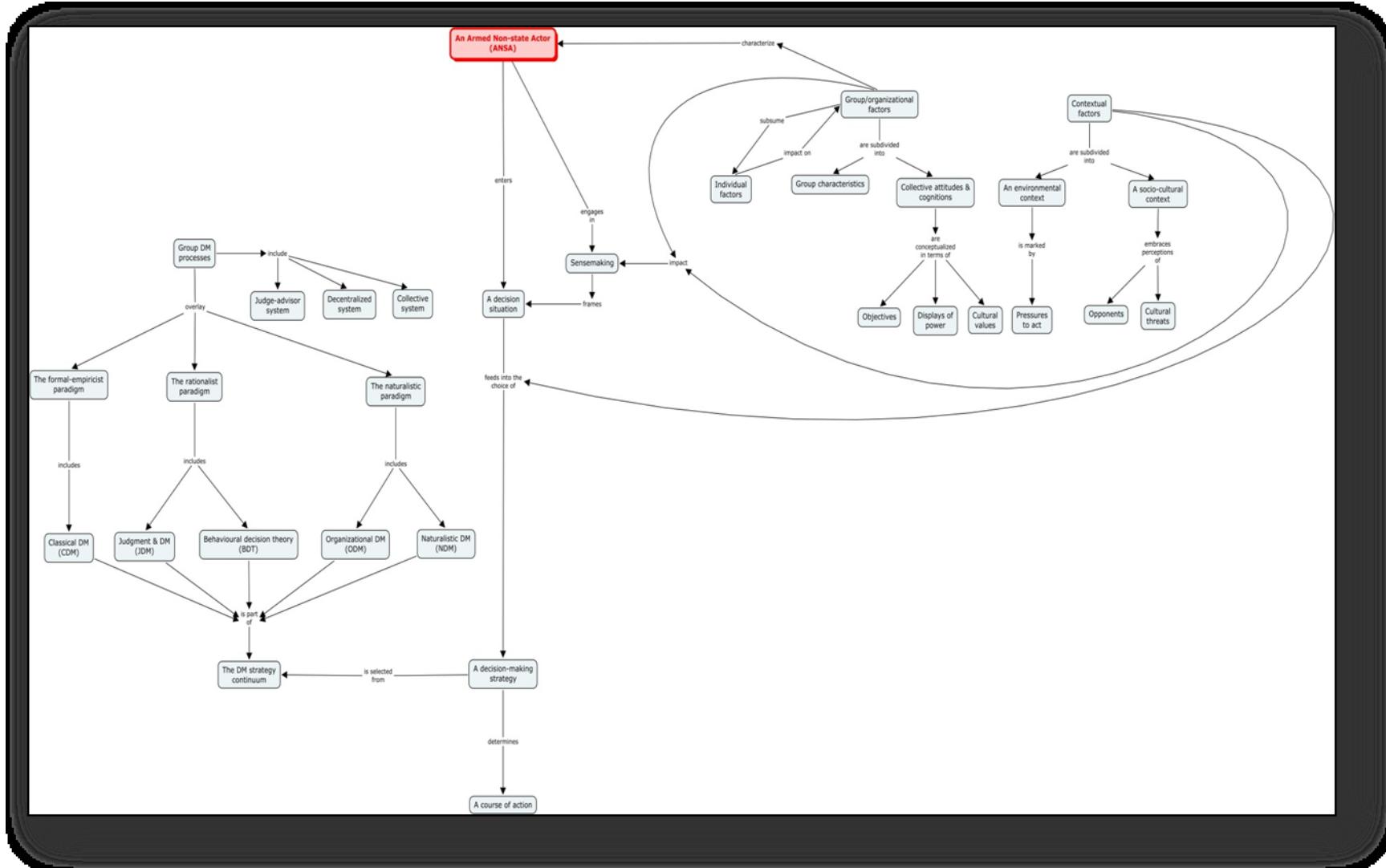


Figure 10: Cmap summary of CR 2012-054.

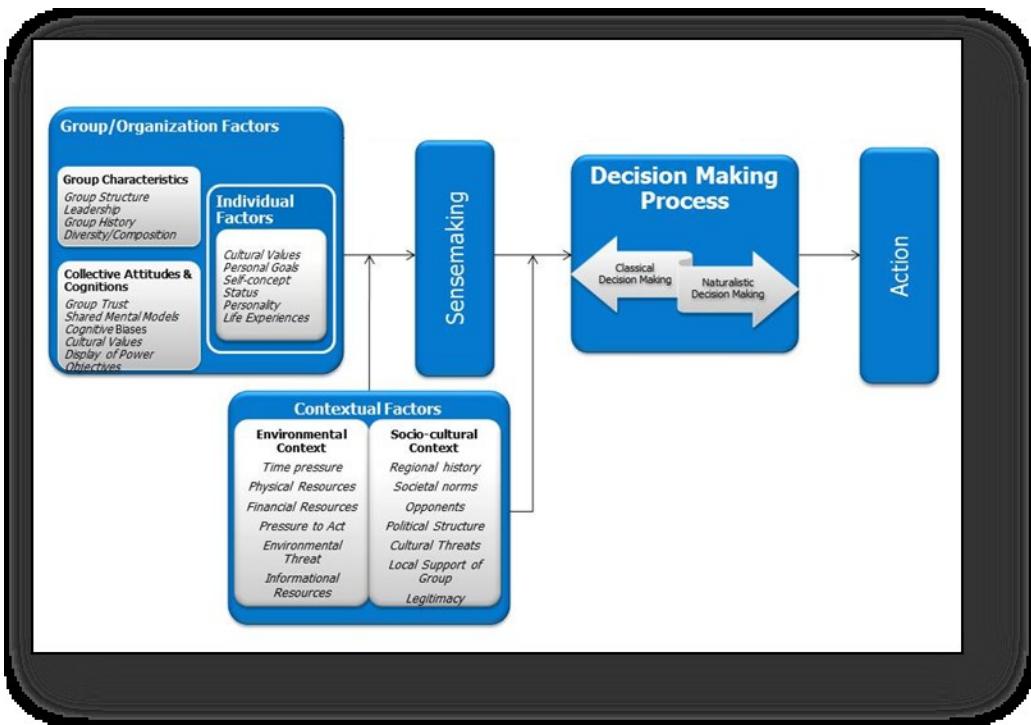


Figure 11: The revised framework for ANSA decision making.

3.3.3 Integrative complexity and the translation effect

The collaborative exercise with our External Partner (UBC Professor Suedfeld) successfully demonstrated the application of Suedfeld's Integrative Complexity (IC) technique to measuring the *translation effect*. In this particular exercise, we determined that cognitive structure, as measured by IC score, was invariant among excerpts from three technically sound—that is, grammatically, syntactically, and definitionally correct—translations of the Qur'an. That is to say, we found no evidence for the existence of a translation effect in the translated texts chosen for analysis. The results of this research were presented at successive annual meetings of the International Society of Political Psychology in Istanbul (July 2011) and Chicago (July 2012). This innovative cross-disciplinary adaptation of social psychological methods to translation quality assessment was also introduced to the translation studies community in an article accepted for publication in the journal *New Voices in Translation*.

As mentioned in Section 3.1 above, it had been our intent to combine the in-house competency in IC acquired over the course of the translation effect exercise—Dr. McLellan’s certification as an IC coder—with that of the Suedfeld team to score the same corpus of translated al-Shabaab Internet postings used by the Salas team in their historiometric analysis. Unfortunately, we were unable to follow up this research thrust. Quite simply, our collaboration with the Suedfeld team dissolved. This collaboration involved an informal, in-kind contribution of time, effort, and expertise on the part of both parties. There was no formal contract or transfer of resources, financial or otherwise, from DRDC to the External Partner. Understandably, unfunded research such as this assumes a lower priority for External Partners. Despite any academic interest they may have in the research, External Partners must prioritize *funded* projects so that they can

provide financial support to the student members of their teams. In this instance, the resources that our External Partner had brought to the table for the translation effect exercise were no longer available to allow us to proceed any further with this line of inquiry.

4 Phase 3 project integration

4.1 Activities

The task in Phase 3 was to integrate the findings of the studies carried out in the first two phases and to recast the IA(I) Cmap in order to create the key end-product of this Project: the *ANSA Concept Map*. Specifically, we brought together the knowledge generated from the conceptual and integrative literature review studies carried out in Phase 1 with the results of the archival and field investigations conducted on the Phase 2 calibration case—the Somali Islamist ANSA, al-Shabaab. The following six reports from the first two phases served as the primary references for transforming the “first-cut” IA(I) Cmap into the final ANSA Cmap. The Cmaps and figures associated with these reports and reproduced above (i.e., Figures 4, 5, 6, 9, 10, and 11) were particularly instrumental in developing the ANSA Cmap.

Phase 1—Conceptual development

- Moore, J. (2012). *A “first-cut” Concept Map: The Irregular Adversary (Insurgent)* (DRDC Toronto TM 2011-118). [above Figure 5 – IA(I) Cmap]
- Moore, J. (2013). *Understanding ANSAs: Identities, roles, and strategies* (DRDC Toronto TM 2011-082). [above Figure 4 – summary Cmap]
- Salas, E., Shuffler, M., & Grossman, R. (2010). *A framework of factors influencing ANSA decision making* (DRDC Toronto CR 2010-187). [above Figure 6 – decision making framework]
- Taylor, D., Wohl, M., & King, M. (2010). *The psychology of violent conflict in failing states: A review of the scientific literature* (DRDC Toronto CR 2010-186)

Phase 2—Framework calibration

- Salas, E., Grossman, R., & Shuffler, M. (2013). *Calibrating the conceptual framework of Armed Non-state Actor (ANSA) group decision making* (DRDC Toronto CR 2012-054). [above Figure 10 – summary Cmap; above Figure 11 – revised decision making framework]
- Taylor, D., Wohl, M., King, M., & Kawatra, L. (2013). *The voice of young Somali Canadians: Identity, threat and the appeal of ANSA groups* (DRDC Toronto CR 2012-053). [above Figure 9 – summary Cmap]

On the basis of the cumulative conceptual and empirical findings of these reports, we reworked the concepts and propositions of the IA(I) Cmap—adding, revising, or removing propositions—to produce an ANSA Cmap in which we can have increased confidence as to its overall fitness for purpose as a *cognitive* and *knowledge* model (see Section 4.3 below).

4.2 Products

The end-product of this Project is the final *ANSA Concept Map*, presented here in two versions. The first (Figure 12) is the *selective* version that provides a simplified skeletal framework, consisting of 18 central propositions descriptive of ANSAs in general. The *full* version (Cmap and 78 associated propositions) providing the comprehensive conceptual framework for understanding ANSAs is presented in Annex C.

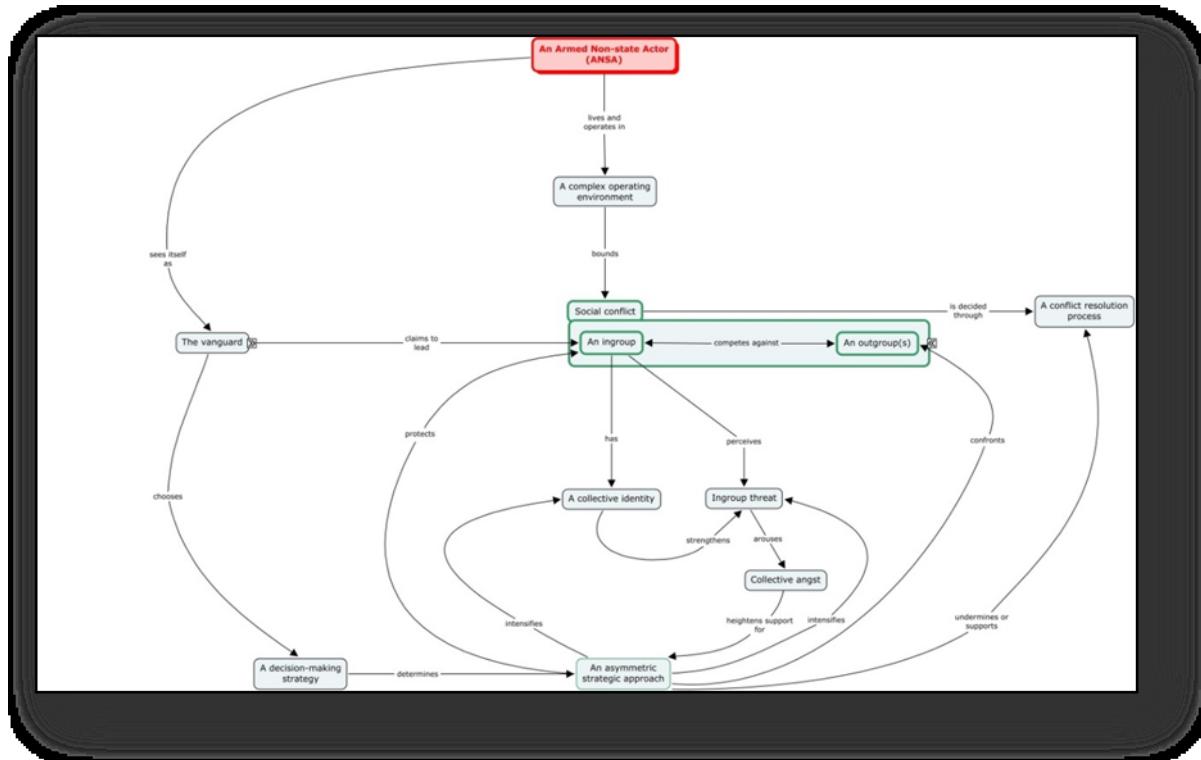


Figure 12: Final ANSA concept map (selective).

ANSA Cmap propositions

1. An Armed Non-state Actor (ANSA) sees itself as the vanguard.
2. An Armed Non-state Actor (ANSA) lives and operates in a complex operating environment.
3. A complex operating environment bounds social conflict.
4. Social conflict occurs when an ingroup competes against an outgroup(s).
5. Social conflict is decided through a conflict resolution process.
6. The vanguard claims to lead an ingroup.
7. An ingroup has a collective identity.

8. An ingroup perceives ingroup threat.
9. A collective identity strengthens ingroup threat.
10. Ingroup threat arouses collective angst.
11. Collective angst heightens support for an asymmetric strategic approach.
12. An asymmetric strategic approach intensifies collective identity.
13. An asymmetric strategic approach intensifies ingroup threat.
14. An asymmetric strategic approach protects an ingroup.
15. An asymmetric strategic approach confronts an outgroup(s).
16. The vanguard chooses a decision making strategy.
17. A decision making strategy determines an asymmetric strategic approach.
18. An asymmetric strategic approach undermines or supports a conflict resolution process.

4.3 Breakthroughs

The ANSA Cmap provides an innovative means to organize efforts to distinguish the intentions and behaviours of ANSAs the CAF is likely to encounter in future expeditionary operations. Specifically, the ANSA Cmap serves as a *cognitive model*—or “primer”—on one particular class of irregular adversary (the following discussion on Cmaps as *cognitive* and *knowledge* models comes from Moore 2012, pp. 19–22). Drawing upon all-source information, the ANSA Cmap can help develop a broad knowledge base of the operating environment in which the CAF conducts COIN and peace support missions, incorporating as it does the structural, ideational, and social dimensions of ANSAs embedded in this environment. It can help the mission commander acquire a holistic understanding of ANSAs in the context of their social environment and their interactions with that environment.

But, to be useful, the generic ANSA Cmap developed in this Project must be adapted to the particulars of each individual group and its operating environment. The Cmap is not a “one size fits all” model, all elements of which are equally relevant to all groups at all times. The Cmap is a generic conceptual architecture that sets out the range of key concepts and propositions identified over the course of the Project as relevant to the description and analysis of ANSAs, without predetermining the relative importance or weight that should be assigned to each. In its practical application, the elements of the Cmap must be tailored to the unique circumstances of the ANSA of interest. This can be done through a variety of graphic modalities applied either alone or in combination (e.g., colour and/or line weight) to visually emphasize the different weights assigned to the relationships in the Cmap. These simple line-weight and colour modalities allow the analyst to tailor the generic ANSA Cmap to the specifics of a particular group (for examples of the application of these modalities using the IA(I) Cmap, see Moore, 2012a, p. 20).

This is what distinguishes the ANSA Cmap from many other visual representations of social phenomena. In many of the latter, there is no discrimination between factors of greater or lesser importance. Anything and everything is fed into the mix, resulting in congested “spaghetti diagrams” that try to account for every variable that could possibly impact a phenomenon (see Figure 13). By including everything, they explain nothing. The ANSA Cmap marks a definite advance on this state of affairs in that, by applying simple colour and line thickness modalities, the weight assigned to a particular concept or proposition can be graphically accentuated.

Second, the ANSA Cmap serves as a *knowledge model*, a repository for the information accumulated during the development of the knowledge base. A Cmap is a powerful knowledge structuring and building tool, serving as a scaffold to organize and manage the overwhelming mass of all-source information on ANSAs that comes across the intelligence analyst’s desk. It makes possible the creation of powerful knowledge frameworks that permit knowledge retention and the use of this knowledge in new contexts (Novak & Cañas, 2008, p. 7). The ANSA Cmap can be used to generate and organize information concerning real-world adversaries in line with the concepts and propositions of the Cmap.

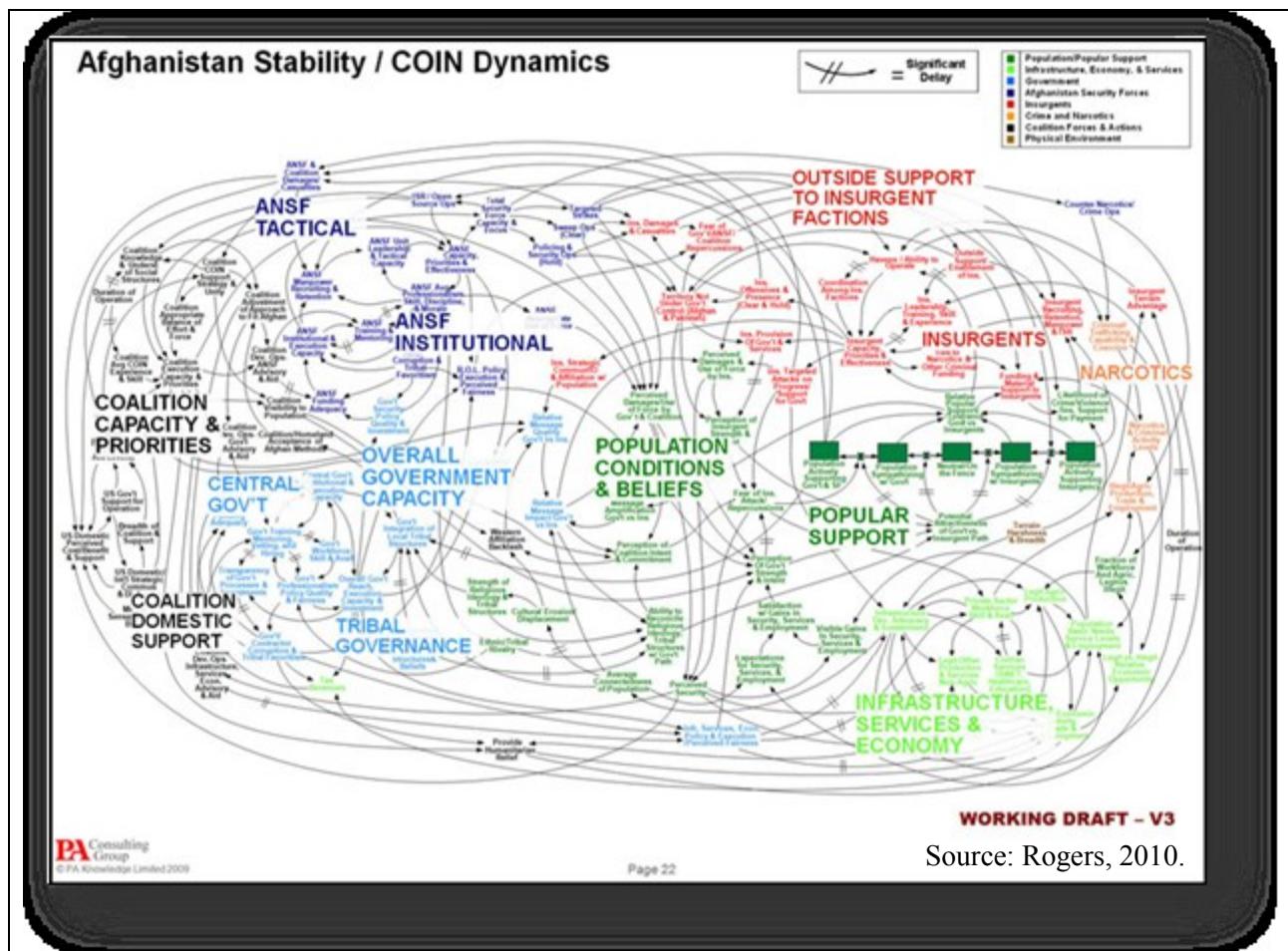


Figure 13: Afghan insurgency “spaghetti” map.

5 Summary and recommendations

We achieved the overall research objective of this Project: We have advanced our understanding of the motivations, intentions, and behaviours of ANSAs within the context of violent intergroup conflict. Moreover, we have distilled this understanding to its core strategic-level factors and laid these out in the form of a generic *ANSA Concept Map*. This Cmap is admittedly parsimonious; it abstracts from the myriad factors or variables that may be of interest at an operational or tactical level. Nevertheless, this high-level conceptual framework—grounded in both multidisciplinary theory and mixed methods practice—captures the essence of this particular class of social actor.

What is more, it suggests a broad strategic approach that “smart” ANSAs are likely to adopt in the context of ongoing social conflict. The triangulation of the two independent research thrusts—the *Social Conflict* block and the *Strategic Decision Making Processes* block—converged on two critical factors that featured accordingly as focal elements of the ANSA Cmap, that is,

- the competition between the ingroup and an outgroup(s) (i.e., *social conflict*), and
- the perceived threat to the future vitality of the ingroup arising from this competition (i.e., *collective threat*).

Appreciating these variables *from the perspective of the ANSA and the ingroup it presumes to represent* emerges as the key to understanding the intentions and behaviours of these non-state actors: What is the nature of the threat (physical, cultural, and/or material) they—the ANSA and its supporting ingroup—perceive to the ingroup, and what outgroup(s) do they see as the locus of that threat (e.g., the established authorities, foreign military forces, other social groups, etc.)? As an example, al-Qaeda’s strategic messaging to its putative base demonstrates an appreciation, whether conscious or not, of the importance of these factors:

The West is at war with Islam.

Both factors central to the ANSA Cmap are embedded in this simple message: the competition with the outgroup (“the West”), and the threat—that is, the danger to the very survival of the ingroup—this outgroup poses to the global Islamic community or *ummah* (“war with Islam”).

From a policy standpoint, what does this finding suggest as to the likely behaviour of ANSAs in violent intergroup conflict? Limiting our speculation to “anticipating possibilities” (Davis & Cragin, 2009, p. 454) rather than “reliably predicting,” the “smart” ANSA would likely try to

- harden the “us” vs. “them” distinction (the ANSA will also emphasize that not only is it part of “us,” but that it is the vanguard or leading element of “us”), and
- amplify the threat to the ingroup or “us,” both through words (e.g., disseminating a collective narrative of grievance) and deeds (e.g., provocative actions intended to elicit repressive responses and overreactions from the outgroup).

In light of this “educated guess” regarding ANSA behaviour, what should the “smart” counterinsurgent⁷ do? First, the counterinsurgent will try to break down the “us” vs. “them” barriers. Reconciliation between the ANSA-supporting ingroup and outgroup(s) is key to overcoming these divisions. Moreover, this process should not be relegated to post-conflict peace building; rather, it is an early and integral part of a comprehensive strategic approach to counter ANSA influence. In the language of counterinsurgency, “it’s not about building schools—it’s about building bridges”.

As well, the “smart” counterinsurgent will try to foster the growth of superordinate identities that emphasize “we” as opposed to “us” and “them,” that is, collective identities that the ANSA-supporting ingroup and outgroup(s) may have in common. (This has become more challenging with the erosion of the sovereign nation-state and the associated weakening of national citizenship as a shared identity among diverse social groups).

As well, the “smart” counterinsurgent will try to diminish the perceived threat to the ANSA-supporting ingroup. This requires an understanding of that group’s *threat matrix*:

- If the ingroup perceives the threat to be primarily *physical* (i.e., if it fears for the group’s physical survival), then the counterinsurgent’s strategic approach should focus on protection and security.
- If the threat is seen to be *cultural* (e.g., the outgroup prevents the ingroup from using its language in education and other aspects of daily life), then the strategic approach should emphasize cultural protection and preservation of the ingroup’s collective identity.
- If the ingroup sees the threat as *material* (i.e., if it lacks access to essential services and resources), then the strategic approach should concentrate on economic development and assistance.

Clearly, the threat matrix will differ for each ingroup depending upon its circumstances, requiring the counterinsurgent to tailor the mix of strategies to the particulars of each case.

With the fruits of the Project now in hand, the question becomes how to disseminate this knowledge to maximum impact within the CAF/DND and the security and defence community more widely? Consideration should be given to the following “marketing” ideas:

- propose revisions where appropriate to the CAF’s *Counter-insurgency Operations* field manual (B-GL-323-004/FP-003 – December 2008) to reflect the results generated in this Project; and
- develop products for CAF education and training purposes, including
 - ◆ training packages on ANSAs for CFSMI and intelligence analyst training courses,
 - ◆ lectures or seminars for the National Security Programme at the Canadian Forces College (CFC), and
 - ◆ an undergraduate or graduate course on *Social Conflict and ANSAs* for RMCC.

⁷ ANSAs include but are not limited to *insurgents*, nor are those who seek to contain ANSA influence exclusively *counterinsurgents*. Nevertheless, for ease of language, we will use the latter term here rather than the technically correct but admittedly clumsy term *counter-ANSA*.

Though we successfully laid out the skeletal structure of a generic ANSA Cmap in this Project, we did not have sufficient in-house resources to add substantive content to the four score of propositions comprising the full Cmap. This should be the first task for any follow-on project. The skeletal structure of the ANSA Cmap should be “fleshed out” to create a “back-end wiki” for the Cmap. That is, a wiki page—varying in length from a short paragraph to a two- to three-page summary article, depending on the complexity of the topic—should be written for each proposition, providing an overview of the substance of that proposition based on the current state of scientific and strategic knowledge. The combined Cmap/wiki format would allow for the evolution (i.e., the ongoing editing and updating) of text entries as further information reflecting the latest scientific thinking becomes available. The Cmap format would also facilitate the interconnection by hyperlink of the wiki pages within the Cmap itself as well as links from the wiki pages to other textual, audio, and video resources on the Web.

Once completed, the ANSA Cmap, with its associated rules and modalities for application, should be validated to ascertain its usefulness as a practical tool for civilian and military intelligence analysts. This would be the second task in any follow-on project: to test the ANSA Cmap with a select group of intelligence analysts under controlled experimental conditions. This exercise would seek to determine how well the ANSA Cmap contributes to analysts’ understanding of the motivations, intentions, and behaviours of ANSAs. It would ascertain how Cmapping compares to other methods of knowledge acquisition, for example, an unguided search of the Internet for multimedia resources—text, pictures, audio, and video—related to ANSAs (arguably the default option for many analysts absent more specific direction from colleagues or supervisors). In other words, a follow-on project would seek to test the effectiveness of the ANSA Cmap as a *cognitive model* and *knowledge model* (refer back to Section 4.3).

In conclusion, the reference above to the evolutionary nature of the Cmap and its associated wiki deserves repeating. The final version of the ANSA Cmap presented in this Report is “final” only in the sense that it is the end product of this particular Project. Cmaps are dynamic as is the knowledge upon which they are based. They will and must evolve to reflect future theoretical, experimental, and empirical advances in the social sciences. As Crandall, Klein, and Hoffman (2006) aptly put it, “it is wise to always consider Concept Maps as ‘living’ representations rather than finished ‘things’” (p. 54). In that sense, the ANSA Cmap presented here remains a “work in progress”.

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Annex A Annual reviews

A.1 TIF Annual Review 2009

		DRDC Technology Investment Fund Annual Report; Scientific Summary	
Report Date: 11/09/2009			
TIF Number: 2009-04-01	CPME Number: 10ad08	Researcher Name: Moore Center: Toronto	
Project Title: A Conceptual Framework for Understanding ANSAs: Strategic Roles and Operational Dynamics			
Primary S&T Expertise: 11-Behavioural Effects			
Project Start: 2009 04 01	Project End: 2012 03 31		
Instructions The space below is a Text Box in an Excel worksheet. Text may be entered under the headings directly, or cut and pasted. Space is limited to 2 pages.			
1. Major Partners or Collaborators None to date. Two Canadian academics - Dr. Michael Wohl (Carleton University) and Dr. Donald Taylor (McGill University) - had agreed prior to the submission of the TIF Proposal in 2008 to collaborate in this Project as External Partners. However, DRDC was subsequently unable to elaborate an External Partnership model that would allow for the innovative participation of these academics in a manner that was nevertheless consistent with PWGSC contracting guidelines. Consequently, the participation of any major partners or collaborators will be secured through standard competitive contracting procedures.			
2. Novelty, Technical Advances, Knowledge Gained None to date.			
3. Project Successes, including unanticipated results None to date.			
4. Intellectual Property, including Patents - potential or resulting None to date.			
5. Impact (potential) of the Project - Defence and/or Scientific perspective The Project will have a highly significant impact on DRDC's R&D program by addressing a key focal area regarding the adversary in the human dimension – namely, developing a comprehensive conceptual framework addressing adversarial intent and behaviour that will account for, among other aspects, psychological, social, cultural, ethnic and religious factors. The knowledge gained from this Project will fill an urgent gap in the domain of human-centric conflict in the present and future security environment. It will serve as a launching pad for future in-depth inquiries, in the context of subsequent ARPs, that must be resolved to achieve viable and productive effects in the battlespace of influence. More specifically, the results of this TIF Project, combined with those generated in the currently ongoing Influence ARP in AIS, offer a tremendous potential for exploitation in a follow-on ARP elaborating advanced tactics and techniques for CF operational influence activities.			
6. Follow on Plans None at this point.			
7. Recommendations or other comments None at this point.			

A.2 TIF Annual Review 2010

DEFENCE R DÉFENSE		DRDC Technology Investment Fund Annual Report; Scientific Summary	
Report Date: <input type="text" value="16/08/2010"/>			
TIF Number: <input type="text" value="2008-04-02"/>	CPME Number: <input type="text" value="10ad08"/>	Researcher Name: <input type="text" value="Moore"/>	Center: <input type="text" value="Toronto"/>
Project Title: <input type="text" value="Understanding Armed Non-state Actors (ANSA): Strategic Roles and Operational Dynamics"/>			
Primary S&T Expertise <input type="text" value="11-Behavioural Effects"/>			
Project Start: <input type="text" value="01/04/2009"/>		Project End: <input type="text" value="31/03/2012"/>	
Instructions <p>The space below is a Text Box in an Excel worksheet. Text may be entered under the headings directly, or cut and pasted. Space is limited to 2 pages.</p>			
<p>1. Major Partners or Collaborators</p> <p>1.1 External Contractors: D. Taylor (McGill University/M. Wohl (Carleton University) - Contract No. W7711-098162/A THE ROOTS OF SOCIAL CONFLICT: REVIEW OF THE RELEVANT SCIENTIFIC LITERATURE (Completion Date: 30 Nov 10).</p> <p>1.2 External Contractors: E. Salas (University of Central Florida) - Contract No. W7711-098163/A TOWARDS A THEORY OF ANSA STRATEGIC DECISIONMAKING: REVIEW OF THE RELEVANT SCIENTIFIC LITERATURE (Completion Date: 30 Nov 10)</p> <p>2. Novelty, Technical Advances, Knowledge Gained</p> <p>Considerable knowledge has already been gained in defining the conceptual problem space through the PI's ongoing work on the Project's Capstone and Keystone documents; two Contractors's workshops (May, Jul 2010); two-day Summit Workshop (Oct 2010) and associated Proceedings (TN 2010-185); and two Contract Reports (CR 2010-186, CR 2010-187).</p> <p>3. Project Successes, including unanticipated results</p> <p>3.1 The Summit Workshop (Oct 2010) brought together CF stakeholders with DRDC, academic and international defence and security science experts from the US (AFRL) for a dialogue on the research findings generated in the Phase 1, and to chart the way forward in Phase 2 Framework Calibration and Validation.</p> <p>3.2 Two groundbreaking Contract Reports were produced: (1) the socio-cultural context of violent intergroup conflict in which ANSAs are embedded (CR 2010-186); and, (2) the decision making processes of ANSAs (CR 2010-187).</p> <p>4. Intellectual Property, including Patents - potential or resulting</p> <p>Not applicable.</p> <p>5. Impact (potential) of the Project - Defence and/or Scientific perspective</p> <p>5.1 Concept Development. Knowledge gained thusfar (see 2. above) has contributed importantly if indirectly to the ongoing development of Horizon 2-3 strategic-level concepts through close consultations with the Directorate of Future Security Analysis (DFSA)/CFD. The growing knowledge base on adversaries/ANSAs informed AIS contributions to the Integrated Concepts Working Group (ICWG) Syndicate 3 – Warfare in the Human Domain, held at DRDC Toronto (Oct 2009), in which the PI was the Syndicate Lead. Through the influence of this work on the strategic-level concepts of 'adversary' (in general) and 'ANSA' (in particular), this Project should contribute vitally to future capability development within the CF.</p> <p>5.2 Stakeholder & International "Buy-in". The Summit Workshop created significant "buy-in" from relevant CF stakeholders. Coordination and collaboration with international defence and security partners in the US and the UK (interest already indicated), and potentially Australia, the Netherlands and Sweden will be pursued in the coming year.</p> <p>6. Follow on Plans (see attached Phase 1.2 Research Program Schematics)</p> <p>Planned activities for the next fiscal year 2011/2012:</p> <p>Phase 1</p> <p>6.1 PI to complete Capstone, 2 Keystone Technical Reports, spring/summer 2011.</p> <p>6.2 PI to present paper on "The Irregular Adversary (Insurgent) Concept Map" at the Red Teaming Gateway Conference, Kingston, ON 17-18 Mar 2011.</p> <p>6.3 PI to present joint paper (with E. Salas, University of Central Florida) on "A Framework of Factors Influencing ANSA Decision Making" at the International Conference on Naturalistic Decision Making, Orlando, FL, 31 May - 3 Jun 2011.</p>			

Phase 2
6.4 "Investigating Techniques for Eliciting Hierarchy-Enhancing Legitimizing Myths" Red Team Academic Support Network (RTASN) (Mar 2011).
6.5 "Clan & Islamic Identities in Somali Society" RTASN (Mar 2011).
These two background studies will feed into the first major Phase 2 contract (following on to 1.1 above):
6.6 "Calibrating the ANSA Conceptual Framework: The Social Conflict Block" External Contractor (Mar 2012).
6.7 "Integrative Complexity and the Translation Effect" External Partner (fall 2011).-----
6.8 "Integrative Complexity Analysis of ANSA Postings on Jihadist Internet Forums" External Partner (fall 2011).
6.9 "Content Exploration of Jihadist Communications" TAC 8147-05 (Mar 2011).
These three background studies will feed into the second major Phase 2 contract (following on to 1.2 above):
6.10 "Calibrating the ANSA Conceptual Framework: The Strategic Decision-making Block" External Contractor (Mar 2012).
6.11 Concept Map Practicum. PI to validate Concept Map as a heuristic and knowledge management tool, using all-source intelligence for the test case, al-Shabaab.
6.11 "Subject Matter Expert (SME) Workshop: Somalia & al-Shabaab" RTASN (spring 2011). The workshop will provide the Contractors (6.6 & 6.10) with extensive background information on Somali culture and the Somali Islamist ANSA al-Shabaab.
6.12 "Summit on ANSAs: Calibrating and Validating the Conceptual Framework and Concept Map Tool" AIS/DRDC (Feb 2012). Culminating workshop for Phase 2.
7. Recommendations or other comments
None.

2008-04-02

A.3 TIF Annual Review 2011

 DEFENCE DÉFENSE	DRDC Technology Investment Fund Annual Report; Scientific Summary
Report Date: 24/10/2011	
TIF Number: 2008-04-02 Researcher Name: Moore	CPME Number: 10az01 Center: Toronto
Project Title: A Conceptual Framework for Understanding Armed Non-state Actors (ANSA): Strategic Roles and Operational Dynamics	
Primary S&T Expertise: 11-Behavioural Effects	
Project Start: 01/04/2009 Project End: 31/03/2012	
Instructions The space below is a Text Box in an Excel worksheet. Text may be entered under the headings directly, or cut and pasted. Space is limited to 2 pages.	
1. Major Partners or Collaborators 1.1 External Contractors: D. Taylor (McGill University)/M. Wohl (Carleton University) - Contract No. W7719-125085/A Calibrating the Armed Non-State Actor (ANSA) Conceptual Framework: The Social Conflict Block (Completion Date: 31 Mar 12). 1.2 External Contractors: E. Salas (University of Central Florida) - Contract No. W7719-125086/A Calibrating the Armed Non-State Actor (ANSA) Conceptual Framework: The Strategic Decision Making Block (Completion Date: 31 Mar 12) 1.3 External Partner: P. Suedfeld (UBC) - Integrative Complexity analyses	
2. Novelty, Technical Advances, Knowledge Gained 2.1 In CR 2010-186, the External Contractor investigated the emergence of violent conflict in failing states. This was analyzed through the prism of six major social psychological theories of intergroup relations. Stemming from an integrative review of a literature fragmented across disciplines and subdisciplines, and in which research on ANSAs is rare and violence in the context of failing states is not commonly examined, three factors were identified thought to be central to the psychology involved in the emergence and maintenance of violent conflict in failing states: these factors are relative deprivation, group emotions, and group identity. 2.2 In CR 2010-187, the External Contractor conducted an extensive literature review focused on determining what is known regarding judgment and decision making approaches considered in the context of team, small group, and organizational settings. The review resulted in the development of an innovative guiding framework that draws upon group decision making literature, as well as specific facets of ANSA and terrorist decision making literature to identify the key antecedents to ANSA decision making, as well as the factors that may moderate the processes in which decisions are made. 2.3 In collaboration with P. Suedfeld (UBC), the Project team applied Suedfeld's Integrative Complexity technique as a novel measure of the quality of translations of non-English language source texts (demonstrated using translated excerpts from the Qur'an), critical to the Phase 2 analysis of translated al-Shabaab Internet postings. The preliminary results of this research were presented at the International Society of Political Psychology Annual Meeting in Istanbul, Turkey, July 2011. 2.4 In TM 2011-019, the Principal Investigator examined the two critical systemic functions of collective political violence, situating it in the context of political science theorist David Easton's political systems model, as an <i>information feedback process</i> , and as a <i>self-adjustment mechanism</i> of the system. 2.5 In TM 2011-082, the Principal Investigator expanded Stedman's one-sided 'spoiler' typology ('spoilers' are actors engaged in intergroup conflict who perceive a peace process as threatening to their interests and, hence, resort to violence to undermine the process) to create what has thus far been absent in the spoiler literature: a general dichotomous typology that explicitly includes the binary opposite to 'spoiler', i.e. the 'partner' in a peace process. Moreover, whereas the literature focuses exclusively on the strategies third-party 'custodians of peace' should pursue, depending upon the type of spoiler confronted, this study introduced a novel approach in which the dominant strategy-set mixes of 'spoilers' themselves are elaborated. 2.6 In TM 2011-118 and two Conference Papers (4.1 and 4.3), the Principal Investigator developed a unique graphical representation of the CF's conception of an Irregular Adversary (Insurgent) [IA(I)], as set out in two doctrinal publications: Land Operations (2008) and Counter-Insurgency Operations (2008). The CF's perspective was portrayed in terms of a Novakian Concept Map (Cmap), a visual model for organizing and representing knowledge, consisting of a semi-hierarchical arrangement of concepts and propositions.	
3. Project Successes, including unanticipated results 3.1 The Summit Workshop (Oct 2010) brought together CF stakeholders with DRDC, academic and international defence and security science experts from the US (AFRL) for a dialogue on the research findings generated in the Phase 1, and to chart the way forward in Phase 2 Framework Calibration and Validation. 3.2 The SME Workshop: Somalia and al-Shabaab (Jul 2011) brought together GoC, Canadian and American academic experts on the Horn of Africa to provide a comprehensive backgrounder workshop to inform the work of the Phase 2 contractor teams. The intense interest this workshop generated within the GoC has prompted the organization of an expanded whole-of-government	

conference on al-Shabaab as the culminating event of Phase 2 (Mar 2011).
<u>4. Intellectual Property, including Patents - potential or resulting</u>
Not applicable
<u>5. Impact (potential) of the Project - Defence and/or Scientific perspective</u>
See supplemental "Cumulative Progress Report"
<u>6. Follow on Plans</u>
Planned activities for remainder of fiscal year to 31 Mar 2012:
Phase 1
6.1 Publish Capstone TR, 2 Keystone TMs. Submit SLs derived from reports for publication in appropriate peer-reviewed journals.
6.2 Submit SL on ANSA decisionmaking (with Salas and team) for publication in the <i>Journal of Conflict Resolution</i> (Nov 2011).
Phase 2
6.3 Publish Phase 2 CRs: "Eliciting Hierarchy-Enhancing Legitimizing Myths" (CR 2011-114) (Nov 2011); "Clan & Islamic Identities in Somali Society" (CR 2011-080) (Nov 2011); "Report of a Workshop on Somalia & al-Shabaab" (CR 2011-***) (Nov 2011).
6.4 Complete field research for Phase 2 contracts: "Calibrating the ANSA Conceptual Framework: The Social Conflict Block"; "Calibrating the ANSA Conceptual Framework: The Strategic Decision-making Block" (Mar 2012).
6.5 Complete Integrative Complexity analysis of al-Shabaab Internet postings with External Partner P. Suedfeld (UBC), for presentation at the Mar 2012 Project conference (see 6.6).
6.6 Organize whole-of-government conference - "Understanding ANSAs: al-Shabaab and Its Effects on Canadian National Security" - in cooperation with RMCC (Ottawa, Mar 2012).
<u>7. Recommendations or other comments</u>
None

2008-04-02

A.4 TIF Annual Review 2012

	DRDC Technology Investment Fund Annual Report; Scientific Summary
Report Date: [redacted]	
TIF Number: 2008-04-02	CPME Number: 10az01
Researcher Name: Moore	Center: Toronto
Project Title: A Conceptual Framework for Understanding Armed Non-state Actors (ANSA): Strategic Roles and Operational Dynamics	
Primary S&T Expertise: 11-Behavioural Effects	
Project Start: 01/04/2009	Project End: 31/03/2013
Instructions The space below is a Text Box in an Excel worksheet. Text may be entered under the headings directly, or cut and pasted. Space is limited to 2 pages.	
<p>1. Major Partners or Collaborators</p> <p>1.1 External Contractors: D. Taylor (McGill University), M. Wohl (Carleton University) [Publications List: 1.2, 1.7, 3.6, 4.2, 4.9] 1.2 External Contractors: E. Salas (University of Central Florida) [1.3, 1.8, 3.3, 3.4, 4.2, 4.4, 4.9] 1.3 External Contractors: D. Last (RMCC), A. Seabyer (RMCC) [1.4, 1.5, 1.6, 4.3, 4.8, 4.9] 1.4 External Partner: P. Suedfeld (UBC) [4.7, 4.9, 4.10]</p> <p>2. Novelty, Technical Advances, Knowledge Gained</p> <p>2.1 Strategic Roles of ANSAs [Ref. Publications 2.3, 2.5, 3.2, 4.2] The Principal Investigator expanded Stedman's one-sided "spoiler" typology ("spoilers" = actors engaged in intergroup conflict who perceive a peace process as threatening to their interests and, hence, resort to violence to undermine the process) to create what has thus far been absent in the spoiler literature: a general dichotomous typology that explicitly includes the binary opposite to "spoiler" (i.e., the "partner" in a peace process). Moreover, whereas the literature focuses exclusively on the strategies third-party "custodians of peace" should pursue, depending upon the type of spoiler confronted, this work introduced a novel approach in which the dominant strategy-set mixes of "spoilers" themselves are elaborated.</p> <p>2.2 The Irregular Adversary (Insurgent) Concept Map [Ref. Publications 2.6, 3.5, 4.1, 4.2, 4.3, 4.5, 4.6]. The Principal Investigator developed a Concept Map (Cmap)—a visual model for organizing and representing knowledge, consisting of a semi-hierarchical arrangement of concepts and propositions—representing the Canadian Army's conception of an Irregular Adversary (Insurgent) [IA(I)] as set out in two doctrinal publications, Counter-Insurgency Operations (2008) and Land Operations (2008). This "first-cut" IA(I) Cmap serves as the point of departure for the development in Phase 3 (see 6. below) of a more general Armed Non-state Actor (ANSA) Cmap that will provide a means to guide and manage efforts to explore the intentions and behaviours of one class of irregular adversaries the Army is liable to encounter in future expeditionary operations. A paper [Publications 3.5] detailing this work has been accepted for presentation at—and publication in the Proceedings of—the 5th International Concept Mapping Conference (CMC2012, Malta, Sep 12). An anonymous CMC2012 external reviewer described this work as an "excellent review of purpose, mechanics, challenges and uses of Concept Mapping in a military context."</p> <p>2.3 ANSA Decision Making Framework [Ref. Publications 1.3, 3.3, 3.4, 4.2, 4.4]. The External Contractor conducted an extensive literature review focused on determining what is known regarding judgment and decision making approaches considered in the context of team, small group, and organizational settings. The major contribution of the review was to not simply define what is already known regarding team and group decision making processes, but to explore the antecedents and moderators/mediators that may affect (1) which decision making process is utilized by ANSAs (NDM vs. CDM) in a given situation, and (2) the quality and outcomes of the decision making process. The review resulted in the development of an innovative guiding framework that identified the key antecedents to ANSA decision making, as well as the factors that may moderate the processes in which decisions are made. Specifically, the Contractor developed a framework that incorporates several of the same factors depicted in previous models, but differs from previous models in that it is broken up into individual, group, and contextual factors. The goal was to provide a more streamlined approach to understanding ANSA decision making, while still encompassing the bulk of factors included in other models. Chunking the seemingly infinite number of factors influencing decision making into three broad categories leads to a more high-level understanding of decision making in ANSA groups which can be more approachable from a practical standpoint.</p> <p>2.4 Socio-psychological Factors Underlying Support for ANSAs: A Survey of the Somali-Canadian diaspora community [Ref. Publications 1.7, 3.6, 4.9]. The External Contractors focused on three variables related to support for ANSA behaviour generally and the A NSA al-Shabaab in particular: (1) perceived group threat, (2) strength of group identity (both prominent group-based processes), and (3) social dominance orientation (SDO – a personality characteristic). They conducted a field survey of young Somali-Canadians that yielded three key results challenging the conventional understanding of support for violence and the groups that perpetrate it. First, Politicized Collective Identity (PCI) has traditionally been seen as being an unlikely path to radicalization and support of anti-normative collective action (e.g., violence or acts of terrorism). Empirical evidence suggests that PCI is associated with engagement in normative means to advance group interests. However, the survey revealed that, for young Somalis, support for normative means was replaced with support for al-Shabaab when the group's (i.e., the Somali community's) future was seen to be under threat. Second, previous research found that low-status minority group members who are low in SDO tend to be attracted to violent solutions, presumably because moving from low status to equality between groups would be a victory. The survey found consistent evidence for the opposite: Among those with a strong group identity and feelings of group angst, it is those few who are particularly <i>high</i> in SDO that might be attracted to the extremes of violence and terrorism, and predisposed to support ANSAs such as al-Shabaab. Finally, on a positive note, while PCI coupled with threat appears to heighten support for al-Shabaab, the survey indicated that the more young Somalis had hope for the future, the less they were inclined to support violence and al-Shabaab. These pathbreaking findings have been submitted for publication in the premier social psychology journal <i>Personality and Social Psychology Bulletin</i> [Publications 3.6].</p> <p>2.5 Historiometric Analysis of al-Shabaab Internet Postings [Ref. Publications 1.8, 4.9] The External Contractor conducted a historiometric</p>	

analysis of 153 decision making incidents regarding actions of the ANSA al-Shabaab distilled from a corpus of over 300 translated Internet messages posted by the group. The methodology resulted in a more fine-grained understanding of the antecedents that influence the decision making processes and outcomes of this particular ANSA. Specifically, incidents were coded for antecedents, consisting of group characteristics, environmental contextual factors, and sociocultural factors in the context of the decision making framework developed in Phase 1 of the TIF [see 2.3 above], and their influence on group decision making outcomes. Major emergent themes included the underlying religious tones and cultural values driving different types of outcomes; group biases and a need to display power to remain relevant; pressures to respond based on perceived environmental or sociocultural threats; and the need to enforce rules to garner local support and defray those perceived as opponents. Implications and a revised decision making framework were provided based on the results of this historiometric analysis.

2.6 Adapting Integrative Complexity to Quality Assessment in Translation [Ref. Publications 3.7, 4.7, 4.10] The in-house Project Team in collaboration with the External Partner applied Suedfeld's Integrative Complexity technique as a novel measure of the quality of translations of non-English language source texts (demonstrated using translated excerpts from the Qur'an). This secondary line of inquiry stemmed from the use in Phase 2 of translated al-Shabaab Internet postings [see 2.5 above]. The results of this research were presented at successive annual meetings of the International Society of Political Psychology, in Istanbul, Turkey (July 2011) and Chicago, USA (July 2012). This innovative cross-disciplinary adaptation of social psychological methods to translation quality assessment will be introduced to the translation studies community in a paper submitted to the journal *Translation Studies* [Publications 3.7].

3. Project Successes, including unanticipated results

See 2. above.

4. Intellectual Property, including Patents - potential or resulting

Not applicable.

5. Impact (potential) of the Project - Defence and/or Scientific perspective

The ANSA Cmap developed in Phase 3 [see 6. below] will serve as a *cognitive model*—or “primer” on one class of irregular adversary—facilitating the development of a broad knowledge base of the contemporary operating environment in support of future Army COIN and peace support campaigns in failed or failing states. Encompassing the strategic and operational as well as the structural and ideological dimensions of these actors, it will help the military intelligence operator give the commander a more holistic understanding of ANSAs in the context of their environment and their interactions with that environment. It will also serve as a *knowledge model*, a repository for the information accumulated during the development of the knowledge base. A Cmap is a powerful knowledge structuring and building tool, serving as a template or scaffold to organize and manage the overwhelming mass of all-source information on irregular adversaries that comes across the intelligence operator’s desk, and making possible the creation of powerful knowledge frameworks that permit knowledge retention and the use of this knowledge in new contexts. The ANSA Cmap will be used to generate and organize information concerning specific real-world adversaries in line with the concepts and propositions of the Cmap.

6. Follow on Plans (TIF Phase 3 FY12-13)

On the basis of the series of studies and reports produced in Phase 1 and 2 of the TIF, we will refine the concepts and propositions of the IAI Cmap—revising (i.e., clarifying or rewording) retained propositions, removing unfounded propositions, and adding strongly grounded ones—such that we can have increased confidence from both a theoretical and empirical perspective in the overall fitness for purpose of the resulting ANSA Cmap. Having refined its skeletal structure, the task will then be to populate the ANSA Cmap, that is, to provide its propositions with substantive content. The intent here will be to create a “back-end wiki” for the Cmap. That is, a wiki page—varying in length from a short paragraph to a 2–3 page summary article, depending on the complexity of the subject matter—will be written for each proposition, providing an overview of the substance of that proposition based on the extant scientific literature. The combined Cmap/wiki format will allow for the evolution—the continual editing and updating—of text entries as further information reflecting the latest scientific thinking becomes available. It will also facilitate the interconnection by hyperlink of wiki pages within the Cmap as well as links to other textual, audio, and video resources on the Web.

7. Recommendations or other comments

Continuation of this work in a follow-on ARP is highly recommended. Though the skeletal structure of the ANSA Cmap will be completed in Phase 3 of the TIF, it will not be possible with available in-house resources to fully populate the few score of propositions comprising the Cmap. This would be the first task in the ARP. Once completed, the Cmap, with its associated rules and modalities for application, must be validated to ascertain its usefulness as a practical analytical tool for civilian and military intelligence operators. The second task in the ARP would be to test the ANSA Cmap with a select group of intelligence operators under controlled experimental conditions. How does the Cmap fare against other methods of knowledge acquisition? How well does it facilitate the desired result of the learning exercise—in this instance, increased operator understanding of the motivations, intentions, and behaviours of ANSAs—as compared to, say, an unguided search of the Internet for multimedia resources related to ANSAs (arguably the default option for many analysts absent more specific direction from colleagues or supervisors)? In other words, how effective is the Cmap as a *cognitive model* and *knowledge model*, identified earlier [see 5. above] as the principal functions of the ANSA Cmap?

2008-04-02

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Annex B Report abstracts

This Annex reproduces the Abstracts for the major DRDC and External Contractor reports written in each phase of the ANSA project. All reports are unclassified and publicly available.

B.1 Phase 1 reports

B.1.1. Moore, J. W. (2009). *Integrated Concept Working Group (ICWG) meeting, DRDC Toronto, 20–21 October 2009* (DRDC Toronto TN 2009-083). Toronto, ON: Defence Research and Development Canada – Toronto. [Extract from Introduction and Background]

The Integrated Concept Working Group (ICWG) was established in April 2008 under the authority of the Chief of Force Development (CFD). Its mandate is to provide a forum for L1 Force Developers to share, discuss, construct and review new concepts, as well as to serve as an advisory board to CFD on emerging issues prior to being presented at the Capability Development Board (CDB). The ICWG is intended to complement concept work currently ongoing in the CF, and, through its integrated and collaborative approach, to bring coherence to the process of developing high-level operational concepts within the Horizon 2-3 timeframe.

This DRDC Toronto Technical Note (TN) provides a record of the author's participation in the October ICWG meeting. The next Section includes the presentation made to the Working Group on Day 1 of the conference, entitled "Understanding ANSAs: An Interim Knowledge Management Tool." It provides an overview of the Concept Map of an Irregular Adversary (Insurgent) [IA(I)] developed in the context of TIF Project 10ad08 "A Conceptual Framework for Understanding Armed Non-state Actors (ANSAs): Strategic Roles and Operational Dynamics." Section 3 includes a synopsis of the discussion in Syndicate 3 – Warfare in the Human Domain, held on Day 2 of the meeting, for which the author served as lead.

B.1.2. Moore, J. W. (2011). *Collective political violence in Easton's political systems model* (DRDC Toronto TM 2011-019). Toronto, ON: Defence Research and Development Canada – Toronto.

This Technical Memorandum explores the dual systemic functions of **collective political violence** (CPV), situating it in the context of political science theorist David Easton's political systems model.

B.1.3. Moore, J. W. (2012). *A “first-cut” concept map: The Irregular Adversary (Insurgent)* (DRDC Toronto TM 2011-118). Toronto, ON: Defence Research and Development Canada – Toronto. [Extract from the Executive Summary]

In this Technical Memorandum, we introduce a Concept Map (Cmap) graphically representing the Canadian Army's conception of an Irregular Adversary (Insurgent) [IA(I)] as set out in two doctrinal publications, *Counter-Insurgency Operations* (DAD, 2008a) and *Land Operations* (DAD, 2008b). This "first-cut" IA(I) Cmap will serve as the point of departure for the subsequent development of a more general Armed Non-state Actor (ANSA) Cmap that will provide a means

to guide and manage our efforts to explore the intentions and behaviours of one class of irregular adversaries the Army is liable to encounter in future expeditionary operations.

B.1.4. Moore, J. W. (2013). *Understanding Armed Non-state Actors (ANSAs): Identities, roles and strategies* (DRDC Toronto TM 2011-082). Toronto, ON: Defence Research and Development Canada, Toronto Research Centre. [Extract from the Executive Summary]

This Technical Memorandum (TM) presents some reflections on the the strategic roles of Armed Non-state Actors (ANSAs). We begin this investigation with a statement of the central problem. Simply put, *we in the Canadian national security community have an overly narrow view of the strategic roles of ANSAs and the strategies they employ*. The picture we typically paint of these non-state adversaries—as found in Canadian Armed Forces (CAF) doctrine on irregular warfare and counterinsurgency (COIN)—looks something like this. The lodestone for an armed non-state actor is political power. At a minimum, the ANSA is committed to seizing political power from the established authorities; in the extreme, it seeks to transform society’s fundamental political, economic, and social institutions and relationships in line with its (often utopian) vision of the world. The ANSA sees “the people” as the centre of gravity in its drive for power and sees itself as the leading element in the people’s struggle for survival, whether as a distinct class, cultural or ethnic group, or other “imagined community.” It tries to win, if not the allegiance, at least the acquiescence of the local populace over the course of a protracted politico-military campaign characterized largely by violence and intimidation. The path to power, as far as the ANSA is concerned, does not lie in peaceful engagement with its opponents. Rather, it stands in implacable, violent opposition to the peaceful resolution of social conflict; its reliance on violence and subversion only confirms its true, destructive intentions. Granted, at some point in its drive for power, the ANSA may agree to participate in a formal peace process. However, this is, at best, a tactical manoeuvre. The ANSA publicly proclaims its fidelity to the peaceful settlement of armed conflict, all the while working behind the scenes—often using carefully calibrated and deniable violent activity—to undermine any peace process and weaken its enemies. The picture of an ANSA that emerges from CAF doctrine, then, is that of a violent, irreconcilable foe against whom the CAF must seize every opportunity “to pre-empt, dislocate and disrupt”.

This is very much a one-sided image of ANSAs, though that does not make it wholly inaccurate. Many ANSAs or elements therein are indeed ruthless, brutal actors who cannot be reconciled on any reasonable terms. Nevertheless, something is missing from this picture. In the analysis that follows, three broad arguments will be put forth:

- First, accepting for the moment the assumption that the principal driver for these groups is the pursuit of political power, their ambitions do not invariably extend to appropriating *absolute or total* power. In some cases, ANSAs are willing to share control of state structures and institutions with other groups in society.
- Second, ANSAs are not invariably opposed to the peaceful resolution of armed conflict. By focusing narrowly on the strategic role of *spoiler*—defined as “leaders and parties who believe that peace emerging from negotiations threatens their power, worldview, and interests, and use violence to undermine attempts to achieve it”—we miss an entire category of strategic roles, that of the *partner*. A *partner* is a party that harbours limited political ambitions and is willing to share political power with other actors. What distinguishes the *partner* from the *spoiler* is that the former’s commitment to a peaceful resolution of conflict

over the long term is genuine. In other words, ANSAs assume the strategic role of *partner* when they have made *a strategic commitment to peace*.

- Third, violence is not necessarily the “strategy of choice” for ANSAs in any and all circumstances. Their strategic repertoire is much more varied. For example, they may resort to non-violent action to weaken opponents or undermine a peace process. On the other hand, they may resort to violence in order, paradoxically, to support and sustain that process. Moreover, the conventional image of ANSAs overlooks a whole class of *constructive* strategies in which these groups engage, strategies in which the strategic effect sought is to strengthen the “hard” and “soft” power capabilities of the ANSA and the community it purports to represent.

B.1.5. Moore, J. W., Lam, Q., & Richards, K. (2010). *Proceedings of the summit on ANSAs: Understanding strategic roles and operational dynamics* (DRDC Toronto TN 2010-185). Toronto, ON: Defence Research and Development Canada – Toronto.

This Technical Note summarizes the presentations and discussions at a workshop entitled “Summit on Armed Non-state Actors (ANSAs): Understanding Strategic Roles and Operational Dynamics,” held at DRDC Toronto, October 26–27, 2010. This workshop was the culmination of Phase 1 Conceptual Development of the TIF Project’s three-phase research program, and brought together potential Canadian Forces (CF) stakeholders with DRDC, academic and international defence and security science experts to report on the research findings generated in this first phase and to chart the way forward in Phase 2 Framework Calibration and Practicum. Specifically, we asked the stakeholders, from their perspective, have we got it right? Are we moving in a direction that will yield practical results for military operators in future counterinsurgency (COIN) and peace support operations? Put simply, what do stakeholders need to know about ANSAs in order to better do their jobs?

B.1.6. Salas, E., Shuffler, M. L., & Grossman, R. (2010). *A framework of factors influencing ANSA decision making* (DRDC Toronto CR 2010-187). Toronto, ON: Defence Research and Development Canada – Toronto.

As Armed Non-State Actors (ANSAs) become increasingly involved in both perpetuating and resolving persistent social conflict, understanding the strategic decision making of these groups is critical. To address this issue, we conducted an extensive literature review focused on determining what is known regarding judgment and decision making approaches considered in the context of team, small group, and organizational settings. Our review resulted in the development of a guiding framework that draws upon group decision making literature, as well as specific facets of ANSA and terrorist decision making literature to identify the key antecedents to ANSA decision making, as well as the factors that may moderate the processes in which decisions are made. Specifically, such factors were categorized as *group/organizational factors*, *individual factors*, or *contextual factors* in the context of our framework, and their influence on group sensemaking, and in turn, decision making, were explored. These three broad categories encompass a range of factors that can influence ANSA decision making, providing a streamlined lens through which we can begin to understand it and make valuable predictions. Our framework thus sets the stage for future research as well as the development of training interventions designed to understand and influence ANSA decision making.

B.1.7. Taylor, D. M., Wohl, M. J. A., King, M., & Etemadi, P. (2010). *The psychology of violent conflict in failing states: A review of the scientific literature* (DRDC Toronto CR 2010-186). Toronto, ON: Defence Research and Development Canada – Toronto.

The Adversarial Intent Section of Defence Research and Development Canada – Toronto (DRDC Toronto) has been tasked with gaining a better understanding of the root causes of violent conflict perpetrated by armed non-state actors (ANSA) in fragile and failing states. For this, DRDC Toronto has contracted two leading social psychologists in the field of intergroup relations who, together with their teams, have conducted an integrative review of the literature. The present report presents the results of this literature review, which is organized around six major social psychological theories that outline factors precipitating the development of conflict, factors maintaining conflict, and factors leading to stability. Recommendations intended to guide further research are provided, emphasizing perceptions of relative deprivation, group-based emotions, group identity, and collective narratives.

B.2 Phase 2 reports

B.2.1. Last, D. (2011). *Summit workshop for subject matter experts: Somalia and al-Shabaab* (DRDC Toronto CR 2011-173). Toronto, ON: Defence Research and Development Canada – Toronto.

This Contract Report summarizes the presentations given and discussions held at the Summit Workshop for Subject Matter Experts (SMEs) on Somalia and the Somali jihadist group al-Shabaab, held at Queen's University, Kingston, Ontario, 28-29 July 2011. This Workshop was organized as part of *Phase 2 Framework Calibration* of the research program for the Technology Investment Fund (TIF) Project 10az01 “A Conceptual Framework for Understanding Armed Non-state Actors (ANSA): Strategic Roles and Operational Dynamics.” The aim of the Workshop was to provide the contracting teams for Phase 2 field work with essential background on the political, security and socio-cultural context within which al-Shabaab operates, as well as to provide the broader Government of Canada policy and intelligence community with a forum in which to discuss issues of pressing relevance to Canada’s engagement in the Horn of Africa.

B.2.2. Last, D. (2013). *Eliciting hierarchy-enhancing legitimizing myths (E-HELM): How do we learn about the stories that groups tell to justify their actions?* (DRDC Toronto CR 2011-144). Toronto, ON: Defence Research and Development Canada – Toronto.

Hierarchy-enhancing legitimizing myths are stories told to justify domination, including in-group glorification (Canada is best) and out-group denigration (Canadians are better than Americans). This project explored alternative methods to elicit such myths, tested a tool to select the most appropriate method for particular circumstances, and prepared for a research ethics submission for subsequent work. For an information-saturated environment with ready access to mass media, Susemihl describes methods of eliciting myths communicated through literature, mass media, Internet and blogs. Textual analysis, content analysis, interpretive analysis, semiotics, psychoanalysis and discourse analysis are illustrated for children’s literature, radio, television, Internet and blogs. Appropriate to a saturated or less dense communications environment, Bogdanic describes techniques including key informant narrative interviewing, purposive sampling, the application of Symbolic Convergence Theory (SCT), and Q methodology. SCT

focuses on shared fantasies that involve the audience in a drama. Q methodology has the advantage of drawing data from very small samples. Bogdanic also describes framing and stereotyping, which serve similar functions to myths. When access is difficult and information is scarce, anthropological techniques can still be used. Thomson describes gaining permission to enter, dealing with surveillance, recruiting respondents, and forms of interference by authorities. Finan demonstrated the use of analytic hierarchy process (AHP) as a tool to select the most appropriate method according to stakeholder considerations. Lagacé-Roy provided guidance on ethical considerations in approving research and remains available for consultation in the next phase of the study.

B.2.3. Last, D., & Seaboyer, A. (2011). *Clan and Islamic identities in Somali society* (DRDC Toronto CR 2011-080). Toronto, ON: Defence Research and Development Canada – Toronto.

The Socio-cognitive Systems Section (SCSS) of Defence Research and Development Canada – Toronto (DRDC Toronto) has been tasked with advancing our understanding of the motivations, intentions and behaviours of Armed Non-state Actors (ANSA) in the context of violent intergroup conflict in fragile and failing states. For this, DRDC Toronto has contracted the Royal Military College of Canada's (RMCC) Centre for Security, Armed Forces and Society (CSAFS) to address the question of the importance of clan and Islamic identities in Somali culture using an alternative perspectives (or diegetic red teaming) approach. CSAFS asked six internationally recognized experts on Somalia to tackle this question from the anthropological, historical, political and advocacy perspectives. This Contract Report presents the six papers that represent the culmination of this coordinated and comprehensive effort.

B.2.4. Moore, J. W., McLellan, L., & Suedfeld, P. (2012). *Measuring the “translation effect”: An innovative application of Integrative Complexity* (DRDC Toronto TM 2012-114). Toronto, ON: Defence Research and Development Canada – Toronto.

This Technical Memorandum introduces Integrative Complexity (IC), a measure of cognitive structure drawn from the discipline of social psychology, and reports on the application of this technique to investigate the existence (or non-existence) of a *translation effect*—measurable, statistically-significant differences in cognitive structure—among various English translations of the same non-English-language source text. Specifically, the IC scoring method was used to score selected verses from the Qur'an relating to either one of two broad themes—“struggle” or “virtue”—from three different English translations of this religious text. These scores were then compared to determine whether the different translations captured the meaning of the Qur'an *in terms of its cognitive complexity* in the same way. The results of the exercise determined that cognitive structure, as measured by IC score, was invariant among three technically sound—that is, “grammatically, syntactically, and definitionally correct”—translations, despite any semantic or stylistic variability in their content. That is to say, *we found no evidence for the existence of a translation effect*. The results also revealed that, in common with earlier IC findings, “struggle” passages were lower in IC than “virtue” passages.

B.2.5. Salas, E., Grossman, R., & Shuffler, M. L. (2013). *Calibrating the Armed Non-state Actor (ANSA) conceptual framework of group decision-making* (DRDC Toronto CR 2012-054). Toronto, ON: Defence Research and Development Canada, Toronto Research Centre.

As Armed Non-State Actors (ANSAs) become increasingly involved in both perpetuating and resolving persistent social conflict, understanding the strategic decision-making of these groups is critical. In order to address this issue and begin calibrating a framework of ANSA decision-making, we conducted a historiometric analysis of 153 decision-making incidents regarding actions of the ANSA al-Shabaab. Our methodology resulted in a more fine-grained understanding of the antecedents that influence the decision-making processes and outcomes of this particular ANSA. Specifically, incidents were coded for antecedents—consisting of *group characteristics*, *collective attitudes and cognitions*, *environmental contextual factors*, and *socio-cultural factors*—in the context of our framework and for their influence on group decision-making outcomes. Major emergent themes included the underlying religious tones and cultural values driving different types of outcomes; group biases and a need to display power to remain relevant; pressures to respond based on perceived environmental or socio-cultural threats; and the need to enforce rules to garner local support and to punish opponents and others who violate local rules and societal norms. Implications and a revised framework are provided based on the results of this historiometric analysis.

B.2.6. Taylor, D. M., Wohl, M. J. A., King, M., & Kawatra, L. (2013). *The voice of young Somali Canadians: Identity, threat, and the appeal of ANSAs* (DRDC Toronto CR 2012-053). Toronto, ON: Defence Research and Development Canada, Toronto Research Centre.

This Contract Report presents the findings of a comprehensive field survey designed to shed light on the attraction of young people to Armed Non-state Actors (ANSAs). The Contractors surveyed 80 young Somali Canadians who come from a failed state (Somalia) and where terrorist organizations (specifically, the militant jihadist group al-Shabaab) play an important role in the current and future outcomes for that state. The survey focused on variables of importance to young Somali Canadians: *perceived group threat*, *strength of group identity*, and *Social Dominance Orientation* (an individual's tendency to value group status and hierarchy while devaluing egalitarianism). The research explored these three variables in terms of their relationship with support for engaging in terrorism.

Our formal analyses of the survey instrument completed by young Somalis living in Canada pointed to important links between group identity and group threat on the one hand and support for ANSA behaviour and acculturation to Canada on the other. Moreover, these important links have implications for the quality of life experienced by young Somalis who are wrestling with a number of adjustment issues that are not of their own making.

Annex C Concept map propositions

C.1 ANSA strategic roles concept map

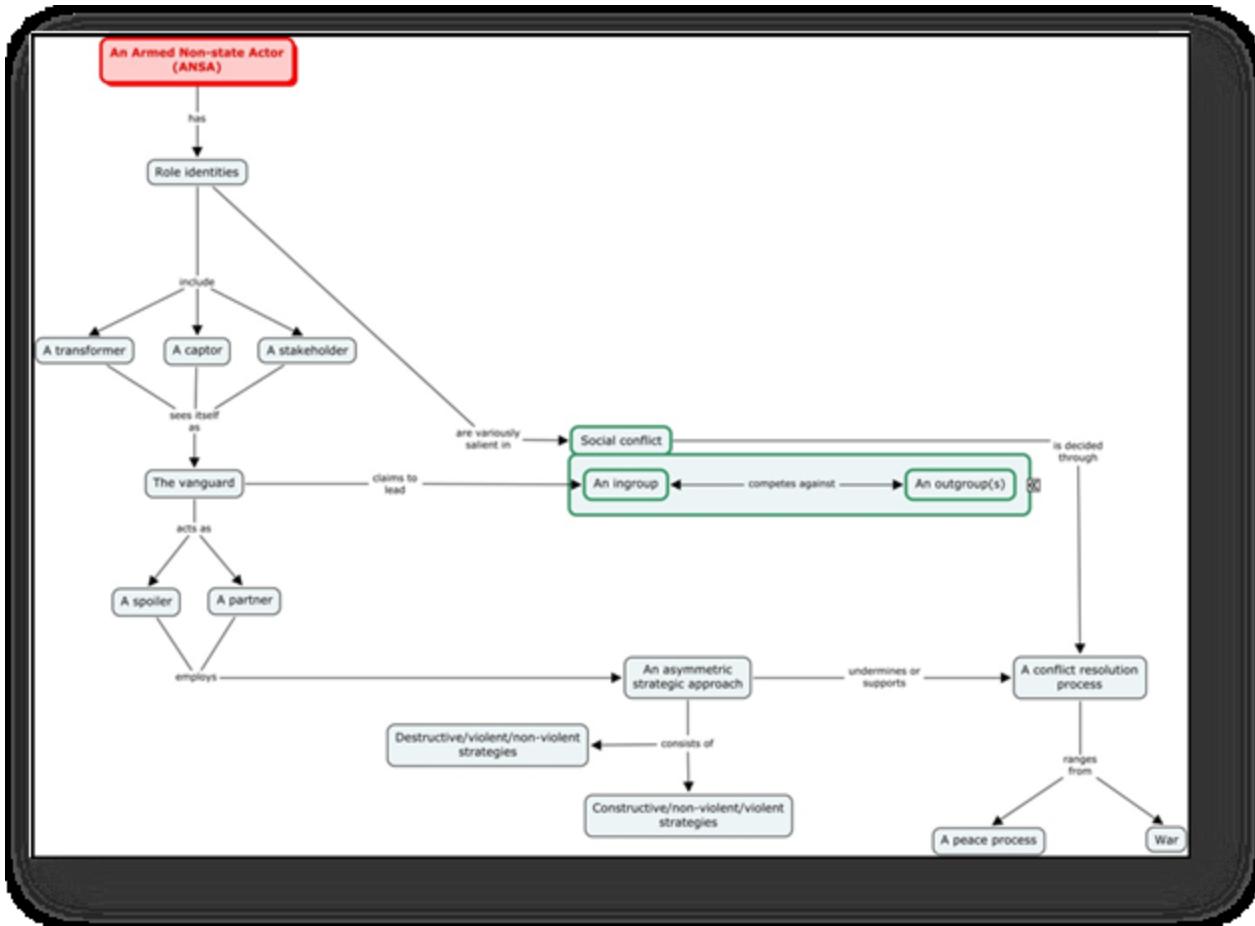


Figure C.1: ANSA strategic roles concept map.

Propositions

1. An Armed Non-state Actor (ANSA) has role identities.
2. Role identities are variously salient in social conflict.
3. Social conflict occurs when an ingroup competes against an outgroup(s).
4. Social conflict is decided through a conflict resolution process.
5. A conflict resolution process ranges from a peace process to war.

6. Role identities include a transformer, captor, or stakeholder.
7. A transformer, captor, or stakeholder sees itself as the vanguard.
8. The vanguard claims to lead an ingroup.
9. The vanguard acts as a spoiler or partner.
10. A spoiler or partner employs an asymmetric strategic approach.
11. An asymmetric strategic approach consists of destructive/violent/non-violent strategies and constructive/non-violent/violent strategies.
12. An asymmetric strategic approach undermines or supports a conflict resolution process.

Reference: Moore, J. W. (2013). *Understanding Armed Non-state Actors (ANSAs): Identities, roles and strategies* (DRDC Toronto TM 2011-082). Toronto, ON: Defence Research and Development Canada, Toronto Research Centre.

C.2 Social conflict block concept map

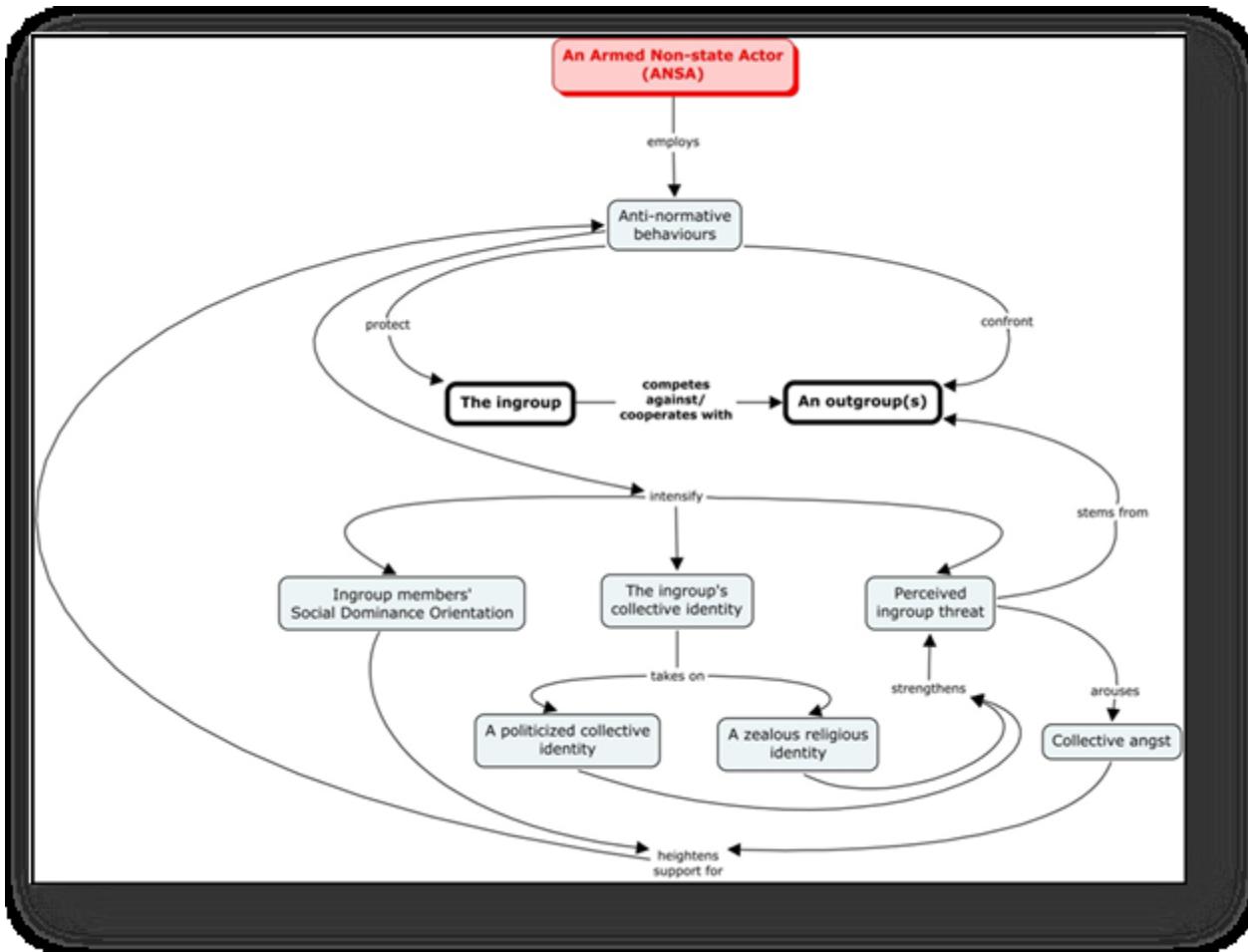


Figure C.2: Cmap summary of CR 2012-053.

Propositions

1. An Armed Non-state Actor (ANSA) employs anti-normative behaviours.
2. The ingroup competes against/cooperates with an outgroup(s).
3. Anti-normative behaviours confront an outgroup(s).
4. Anti-normative behaviours protect the ingroup.
5. Anti-normative behaviours intensify ingroup members' Social Dominance Orientation.
6. Ingroup members' Social Dominance Orientation heightens support for anti-normative behaviours.

7. Anti-normative behaviours intensify the ingroup's collective identity.
8. The ingroup's collective identity takes on a politicized collective identity.
9. A politicized collective identity strengthens perceived ingroup threat.
10. The ingroup's collective identity takes on a zealous religious identity.
11. A zealous religious identity strengthens perceived group threat.
12. Anti-normative behaviours intensify perceived ingroup threat.
13. Perceived ingroup threat stems from an outgroup(s).
14. Perceived ingroup threat arouses collective angst.
15. Collective angst heightens support for anti-normative behaviours.

Reference: Taylor, D. M., Wohl, M. J. A., King, M., & Kawatra, L. (2013). *The voice of young Somali Canadians: Identity, threat, and the appeal of ANSAs* (DRDC Toronto CR 2012-053). Toronto, ON: Defence Research and Development Canada, Toronto Research Centre.

C.3 Strategic decision making processes block concept map

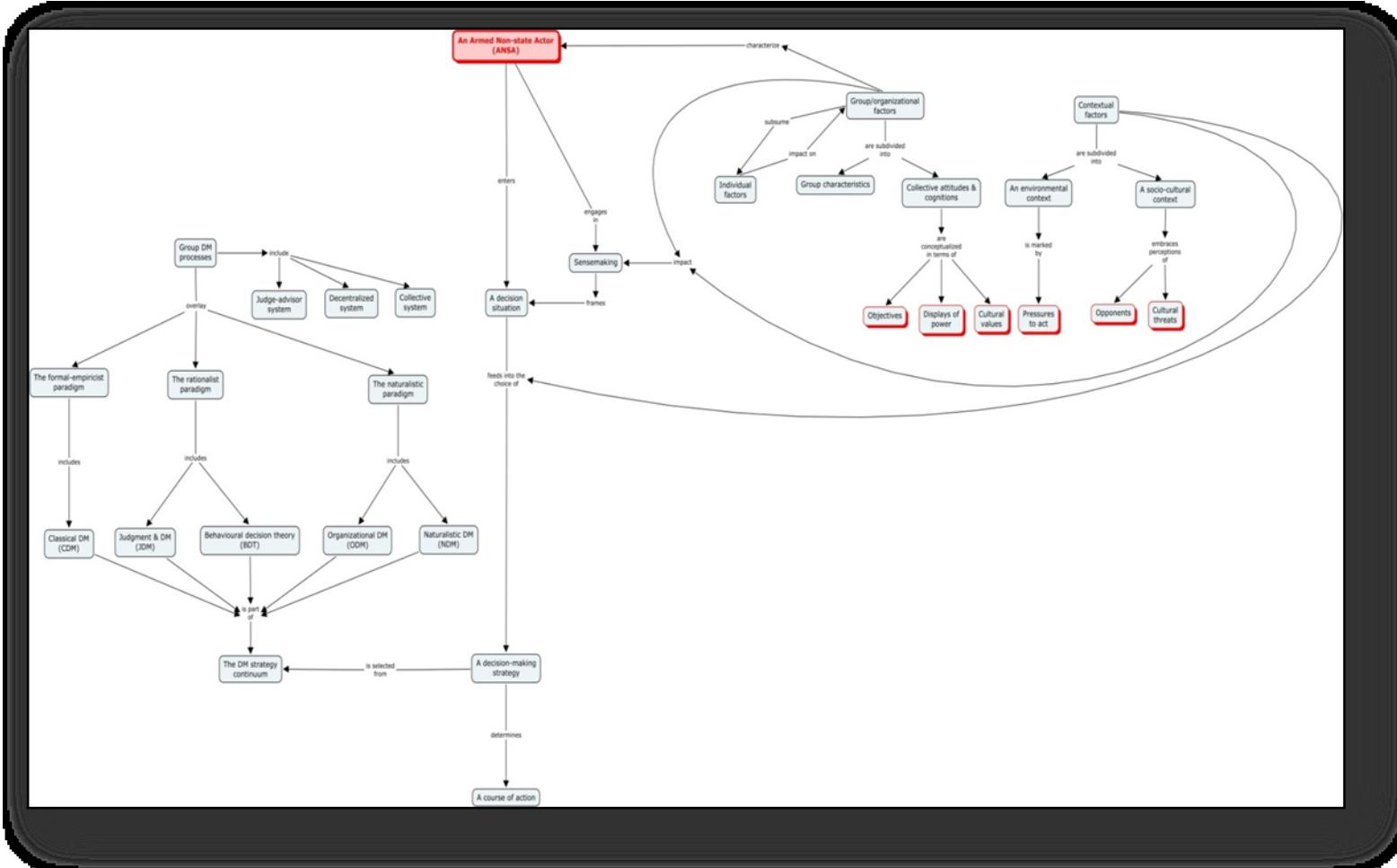


Figure C.3: Cmap summary of CR 2012-054.

Propositions

1. An Armed Non-state Actor (ANSA) enters a decision situation.
2. An Armed Non-state Actor (ANSA) engages in sensemaking.
3. Group/organizational factors characterize an Armed Non-state Actor (ANSA).
4. Group/organizational factors subsume individual factors.
5. Individual factors impact upon group/organizational factors.
6. Group/organizational factors are subdivided into group characteristics and collective attitudes and cognitions.
7. Collective attitudes and cognitions are conceptualized in terms of objectives, displays of power, and cultural values.
8. Contextual factors are subdivided into an environmental context and a socio-cultural context.
9. An environmental context is marked by pressures to act.
10. A socio-cultural context embraces perceptions of opponents and cultural threats.
11. Group/organizational factors impact sensemaking.
12. Contextual factors impact sensemaking.
13. Sensemaking frames a decision situation.
14. A decision situation feeds into the choice of a decision making strategy.
15. Contextual factors feed into the choice of a decision making strategy.
16. A decision making strategy is selected from the DM strategy continuum.
17. Group DM processes include judge-advisor system, decentralized system, and collective system.
18. Group DM processes overlay the formal-empiricist paradigm.
19. The formal-empiricist paradigm includes Classical DM (CDM).
20. Classical DM (CDM) is part of the DM strategy continuum.
21. Group DM processes overlay the rationalist paradigm.
22. The rationalist paradigm includes judgment & DM (JDM) and behavioural decision theory (BDT).

23. Judgment & DM (JDM) and behavioural decision theory (BDT) are part of the DM strategy continuum.
24. Group DM processes overlay the naturalistic paradigm.
25. The naturalistic paradigm includes organizational DM (ODM) and naturalistic DM (NDM).
26. Organizational DM (ODM) and naturalistic DM (NDM) are part of the DM strategy continuum.
27. A decision-making strategy determines a course of action.

Reference: Salas, E., Grossman, R., & Shuffler, M. L. (2013). *Calibrating the Armed Non-state Actor (ANSA) conceptual framework of group decision-making* (DRDC Toronto CR 2012-054). Toronto, ON: Defence Research and Development Canada, Toronto Research Centre.

C.4 Final ANSA concept map (full)

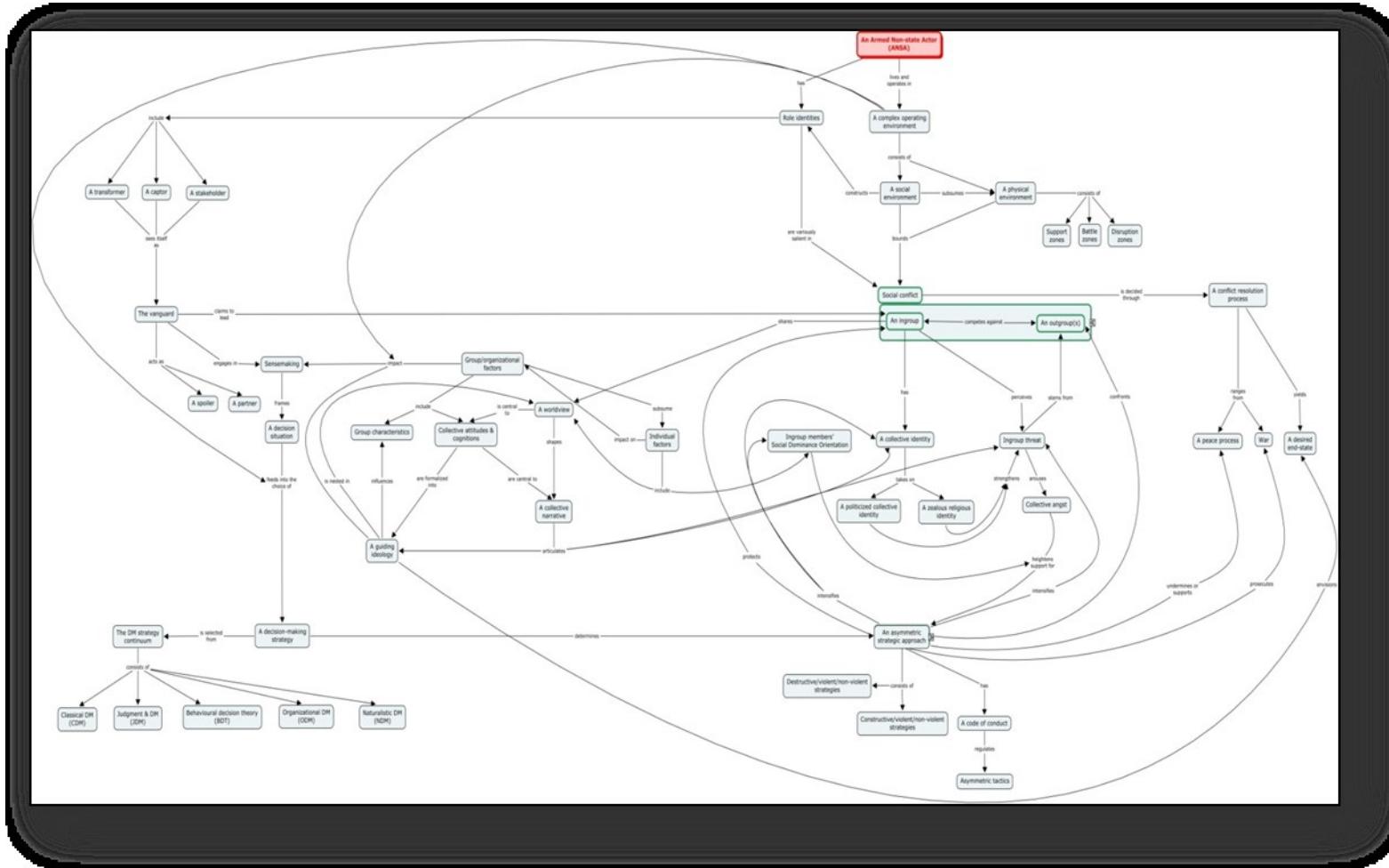


Figure C.4: Final ANSA concept map (full).

ANSA Cmap (full) propositions

1. An Armed Non-state Actor (ANSA) lives and operates in a complex operating environment.
2. A complex operating environment consists of a social environment.
3. A complex operating environment consists of a physical environment.
4. A social environment subsumes a physical environment.
5. A physical environment consists of support zones.
6. A physical environment consists of battle zones.
7. A physical environment consists of disruption zones.
8. A social environment bounds social conflict.
9. A physical environment bounds social conflict.
10. Social conflict occurs when an ingroup competes against an outgroup(s).
11. An ingroup shares a worldview.
12. An ingroup has a collective identity.
13. An ingroup perceives ingroup threat.
14. A collective identity takes on a politicized collective identity.
15. A collective identity takes on a zealous religious identity.
16. A politicized collective identity strengthens ingroup threat.
17. A zealous religious identity strengthens ingroup threat.
18. Ingroup threat stems from an outgroup.
19. Ingroup threat arouses collective angst.
20. Collective angst heightens support for an asymmetric strategic approach.
21. Ingroup members' Social Dominance Orientation heightens support for an asymmetric strategic approach.
22. An asymmetric strategic approach intensifies ingroup members' Social Dominance Orientation.

23. An asymmetric strategic approach intensifies a collective identity.
24. An asymmetric strategic approach intensifies ingroup threat.
25. An asymmetric strategic approach protects an ingroup.
26. An asymmetric strategic approach confronts an outgroup(s).
27. Social conflict is decided through a conflict resolution process.
28. A conflict resolution process ranges from peace process.
29. A conflict resolution process ranges from war.
30. A conflict resolution process yields a desired end-state.
31. An asymmetric strategic approach consists of destructive/violent/non-violent strategies.
32. An asymmetric strategic approach consists of constructive/violent/non-violent strategies.
33. An asymmetric strategic approach has a code of conduct.
34. A code of conduct regulates asymmetric tactics.
35. An asymmetric strategic approach undermines or supports a peace process.
36. An asymmetric strategic approach prosecutes war.
37. An Armed Non-state Actor (ANSA) has role identities.
38. A social environment constructs role identities.
39. Role identities are variously salient in social conflict.
40. Role identities include a transformer.
41. Role identities include a captor.
42. Role identities include a stakeholder.
43. A transformer sees itself as the vanguard.
44. A captor sees itself as the vanguard.
45. A stakeholder sees itself as the vanguard.
46. The vanguard claims to lead an ingroup.
47. The vanguard acts as a spoiler.

48. The vanguard acts as a partner.
49. The vanguard engages in sensemaking.
50. Group/organizational factors impact sensemaking.
51. Group/organizational factors include group characteristics.
52. Group/organizational factors include collective attitudes & cognitions.
53. Group/organizational factors subsume individual factors.
54. Individual factors impact on group/organizational factors.
55. Individual factors include ingroup members' Social Dominance Orientation.
56. Individual factors include a worldview.
57. A worldview is central to collective attitudes & cognitions.
58. A worldview shapes a collective narrative.
59. Collective attitudes & cognitions are formalized into a guiding ideology.
60. Collective attitudes & cognitions are central to a collective narrative.
61. A collective narrative articulates a collective identity.
62. A collective narrative articulates ingroup threat.
63. A collective narrative articulates a guiding ideology.
64. A guiding ideology impacts sensemaking.
65. A guiding ideology is nested in a worldview.
66. A guiding ideology influences group characteristics.
67. A guiding ideology envisions a desired end-state.
68. A complex operating environment impacts sensemaking.
69. Sensemaking frames a decision situation.
70. A decision situation feeds into the choice of a decision making strategy.
71. A complex operating environment feeds into the choice of a decision making strategy.
72. A decision making strategy is selected from the DM strategy continuum.

73. A decision making strategy determines an asymmetric strategic approach.
74. The DM strategy continuum consists of Classical DM (CDM).
75. The DM strategy continuum consists of judgment & DM (JDM).
76. The DM strategy continuum consists of behavioural decision theory (BDT).
77. The DM strategy continuum consists of organizational DM (ODM).
78. The DM strategy continuum consists of naturalistic DM (NDM).

List of symbols/abbreviations/acronyms/initialisms

3ds	Deter, Disrupt, Defeat
AFRL	Air Force Research Laboratory
AIS	Adversarial Intent Section (now SCSS)
ANSA	Armed Non-state Actor
CAF	Canadian Armed Forces
CDB	Capability Development Board
CDM	Classical Decision Making
CF	Canadian Forces
CFC	Canadian Forces College
CFD	Chief Force Development
CFSMI	Canadian Forces School of Military Intelligence
CG	Controlled Goods
CIDA	Canadian International Development Agency
CIMIC	Civil-Military Cooperation
Cmap	Concept Map
CMC	Concept Mapping Conference
COIN	Counterinsurgency
CPV	Collective Political Violence
CSAFS	Centre for Security, Armed Forces and Society
DFAIT	Department of Foreign Affairs and International Trade
DFSA	Directorate of Future Security Analysis
DND	Department of National Defence
DRDC	Defence Research and Development Canada
GoC	Government of Canada
HELM	Hierarchy-enhancing Legitimizing Myth

IA(I)	Irregular Adversary (Insurgent)
IC	Integrative Complexity
ICWG	Integrated Concepts Working Group
NATO	North Atlantic Treaty Organization
NDM	Naturalistic Decision Making
OGD	Other Government Department
PCI	Politicized Collective Identity
PI	Principal Investigator
PSYOPS	Psychological Operations
R&D	Research and Development
RMCC	Royal Military College of Canada
S&T	Science and Technology
SA	Scientific Authority
SCSS	Socio-cognitive Systems Section
SDO	Social Dominance Orientation
SME	Subject Matter Expert
SR	Scientific Report
TIF	Technology Investment Fund
TM	Technical Memorandum
TN	Technical Note
UBC	University of British Columbia
US	United States
VNSA	Violent Non-state Actor

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This is the Final Report of the Technology Investment Fund (TIF) Project entitled “A Conceptual Framework for Understanding Armed Non-state Actors (ANSAs): Strategic Roles and Operational Dynamics” (Project Code: 10az01). The Socio-cognitive Systems Section (SCSS) at Defence Research and Development Canada (DRDC), Toronto Research Centre, undertook this multi-year Project in order to advance our understanding of the motivation, intent, and behaviour of ANSAs. Consistent with DRDC’s support-to-operations mandate, this understanding will help the Canadian Armed Forces (CAF) effectively engage these actors in future expeditionary operations.

The in-house Project team and two world-class academic contracting teams carried the Project through three Phases. *Phase 1 Conceptual Development* established the boundaries of the conceptual problem space. *Phase 2 Framework Calibration* calibrated the “first-cut” Irregular Adversary (Insurgent) [IA(I)] Concept Map (Cmap)⁸ using a real-world test case—the Somali Islamist ANSA al-Shabaab. *Phase 3 Project Integration* integrated the findings of the first two phases and recast the IA(I) Cmap in order to create the key end-product of this Project: the *ANSA Cmap*.

The generic *ANSA Cmap* is a high-level conceptual framework—grounded in both multidisciplinary theory and mixed methods practice—that distills our understanding of these actors to its core strategic-level factors. It serves as a *cognitive model*—or “primer”—on this class of irregular adversary as well as a *knowledge model* or template for organizing and managing the overwhelming mass of information collected on ANSAs.

The Project’s independent research thrusts triangulated on two critical factors that featured as focal elements of the ANSA Cmap, that is, the competition between the ingroup and an outgroup(s) (*social conflict*), and the perceived threat to the future vitality of the ingroup arising from this competition (*collective threat*). Appreciating these variables *from the perspective of the ANSA and the ingroup it claims to represent* emerges as the key to understanding the intentions and behaviours of these non-state actors. From a policy standpoint, this finding suggests that the “smart” ANSA would likely try

- to harden the “us” vs. “them” distinction (emphasizing that not only is it part of the “us” or ingroup but that it is the vanguard or leading element of “us”), and
- amplify the threat to the ingroup or “us,” both through words and deeds.

Voici le rapport final d’un projet financé par le Fonds d’investissement technologique et intitulé : « A Conceptual Framework for Understanding Armed Non- State Actors (ANSAs): Strategic Roles and Operational Dynamics » (Cadre conceptuel pour comprendre les motivations des acteurs armés non étatiques [AANE]) (code de projet : 10az01). La Section des systèmes sociocognitifs (SSC) de Recherche et développement pour la défense – Toronto

⁸ A *Concept Map* is a graphical model for organizing and representing knowledge consisting of a semi-hierarchical arrangement of concepts and propositions.

(RDDC Toronto) a entrepris ce projet pluriannuel visant à accroître notre compréhension des motivations, des intentions et des comportements des AANE. Conformément au mandat de RDDC qui consiste à soutenir les opérations, une telle compréhension aidera les Forces armées canadiennes (FAC) à affronter efficacement ces acteurs dans de futures opérations expéditionnaires.

L'équipe interne du projet et deux équipes universitaires contractuelles de calibre mondial ont mené le projet en trois phases. La *Phase 1, Élaboration conceptuelle*, a permis d'établir les limites de la question conceptuelle du projet. La *Phase 2, Étalonnage du cadre conceptuel*, a permis de concevoir une première ébauche de schéma conceptuel (Cmap)⁹ de l'adversaire irrégulier (insurgé), fondé sur un cas type réel : le groupe d'AANE islamiste de la Somalie, Al Shabaab. La *Phase 3, Intégration du projet*, a permis d'intégrer les constatations issues des deux premières phases et de remanier le schéma conceptuel de l'adversaire irrégulier (insurgé) en vue de fournir le produit final de ce projet : le schéma conceptuel des AANE (*ANSA Cmap*).

Le schéma conceptuel générique des AANE constitue un cadre conceptuel de haut niveau qui repose sur une théorie multidisciplinaire et la pratique de méthodes mixtes, et permet de transposer notre compréhension des acteurs à ses facteurs principaux de niveau stratégique. Il joue le rôle de *modèle cognitif*, le b.a.-ba de cette catégorie d'adversaire irrégulier, ainsi que de *modèle de connaissance* ou de gabarit pour organiser et gérer la masse écrasante de données recueillies sur les AANE.

Dans le cadre du projet, les vecteurs de recherche indépendants ont axé leurs travaux sur deux facteurs critiques présentés comme des éléments fondamentaux du schéma conceptuel des AANE, c'est-à-dire la concurrence entre le groupe d'appartenance et un ou plusieurs groupes de référence (*conflit social*), ainsi que la menace perçue envers la vitalité future du groupe d'appartenance que suscite cette concurrence (*menace collective*). Une évaluation de ces variables, *du point de vue des AANE et du groupe d'appartenance qu'ils prétendent représenter*, s'impose comme élément principal pour comprendre les intentions et le comportement de ces acteurs non étatiques. Du point de vue de la politique, cette constatation laisse entendre qu'un AANE « intelligent » tenterait probablement :

- d'établir une distinction plus marquée entre « nous » et « eux » (renforçant l'idée que non seulement il fait partie du « nous » ou du groupe d'appartenance, mais qu'il est aussi la tête d'avant-garde ou l'élément de tête du « nous ») ;
- d'exagérer la menace planant sur le groupe d'appartenance ou sur le « nous » par ses paroles ou ses actions.

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Armed Non-state Actor (ANSA)

⁹ Un *schéma conceptuel* est un modèle graphique permettant d'organiser et de représenter les connaissances. Il est constitué de concepts et de propositions qui sont représentés selon une structure semi-hiéarchique.

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